Primary school teachers' opinions and attitudes towards stuttering in two socio-economic quintiles within the Western Cape

by

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Declaration

I, **KRISTEN ABRAHAMS**, hereby declare that the work on which this dissertation/thesis is based is my original work (except where acknowledgements indicate otherwise i.e. APA referencing) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

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Abstract

Teachers form an important part of the multidisciplinary team as one of main communication intervention partners for children who stutter (CWS). Teachers' attitudes towards stuttering are therefore important as attitudes are likely to influence behaviour. Through determining their attitudes as well as examining the factors influencing their attitudes, speech-language therapists will be able to develop and implement professional development programmes specifically tailored for teachers, if needed. The primary aim of the study is to describe primary school teachers' attitudes toward stuttering related to their beliefs, reactions and classroom management strategies. Furthermore, it compares South African teachers' attitudes to the Public Opinion of Human Attributes – Stuttering (POSHA-S) database archive. As a secondary aim, the study explores the association between selected demographic factors and participants' attitudes toward stuttering. A quantitative, cross-sectional survey design was used. The POSHA-S was administered to a cluster randomised sample of 469 participants in two education districts in the Western Cape. The results indicated an overall positive attitude toward stuttering. The attitudes of the South African sample were slightly more positive compared with the samples in current POSHA-S database. Analysis of the selected demographic factors revealed significant results for the teaching–related factors: quintile and years of teaching experience, and for personal factors: gender, first language, familiarity and age. The implications of these data for planning professional development programmes specifically tailored for the South African context are discussed.

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Chapter 1 – Introduction

1.1 Overview of the Chapter

Chapter 1 provides an orientation to the study, followed by the presentation of research aims. The rationale for the study is presented; emphasising the importance of understanding teachers' attitudes and the role teachers play in the management of children who stutter (CWS). The study context, and specifically the school context, is described. Finally, the overview of the remaining chapters and definitions of key terms and abbreviations is provided.

1.2 Orientation to the Study

The study focuses on describing primary school teachers' attitudes toward stuttering and the selected demographic factors associated with their attitudes. The results of this study are compared to the Public Opinion Survey of Human Attributes – Stuttering (POSHA-S) database archive to determine similarities and differences between the results for the South African and international samples (St. Louis, 2012c). In addition, the teaching-related factors (i.e. quintile, teaching phase and years of teaching experience) and personal factors (i.e. age, gender, first language and exposure/familiarity) are examined. It is anticipated that the exploration of attitudes towards stuttering will inform intervention planning for potential professional development programmes.

1.3 Research Aims

Primary aims.

1. To describe primary school teachers' attitudes towards stuttering in two urban education districts in the Western Cape

2. To compare South African teachers' attitudes to the POSHA-S database archive

Secondary aim.

1. To explore the association between selected teachers' factors (i.e. teaching and personal) and attitudes towards stuttering

1.4 Rationale

Importance of understanding teachers' attitudes.

In South Africa, the prevalence of speech difficulties, including stuttering, is still unknown (Pascoe et al., 2010). Based on reports from Western countries (i.e. USA, Australia, Belgium, Greece etc.), Yairi and Ambrose (2013) concluded that the life-span prevalence of stuttering is about 0.72%. The actual incidence of stuttering before the age of six years is much higher than the later years (Yairi, 2005, Yairi & Ambrose, 2013). This literature suggests that the majority of cases of stuttering will be found during a child's earlier years and subsequently, the majority of CWS are in mainstream schools (Plexico, Plumb, & Beacham, 2013).

If people in the child's environment react negatively to stuttering, it can have a significant impact on the child's experience of their stutter (Blood & Blood, 2004). Negative experiences related to their stutter can not only have an adverse impact on the child's communicative ability, but also hinder their progress in therapy (Murphy, Yaruss, & Quesal, 2007). The environmental context in which a CWS communicates, therefore, must be taken into consideration as the reactions of peers, teachers and family can have an impact on the child's fluency (Yaruss & Reardon, 2002). Speech-language therapists (SLTs) need to understand the importance of working closely with people in the child's environment, particularly teachers, in order to ensure communicative success in different situations (Yaruss & Reardon, 2002).

For school-aged children, who spend a large amount of time at school, there can be little dispute that teachers are figures of authority that can have a significant impact on a child's early years (Abdalla & St. Louis, 2012). The attitudes of significant people, including teachers, in the lives of CWS can have an influence on the maintenance or reduction of the child's dysfluencies (Yeakle & Cooper, 1986). If teachers hold unsubstantiated views on stuttering, it can have a negative impact on how teachers perceive CWS (Abdalla & St. Louis, 2012). Persistence of negative perceptions can have an impact on the dynamics surrounding the educational environment, resulting in the CWS being at a disadvantage and possibly restricting the child's potential (Bennett, 2003).

Teachers, specifically, are one of the main communication partners for CWS and therefore play a pivotal role in the success of speech therapy intervention programmes (Bennett, 2003; Gottwald & Hall, 2003; Yeakle & Cooper, 1986). Furthermore, if the feelings (i.e. frustration, anxiety, etc.) teachers hold about stuttering and treatment are not considered, teachers will be less effective in their attempts to assist (Gottwald & Hall, 2003). Teachers who take on the responsibility of educating a

diverse range of learners, including CWS (and who recognise the role their teaching has on the progress of the learner), and have the confidence in their management and instructional skill (through training), can successfully integrate programmes for inclusive education (Avramidis & Norwich, 2002). In order to maximise the success for CWS in the classroom and in therapy, SLTs can support teachers by working collaboratively with them to implement efficient, well-organised training for teachers (Bennett, 2003). Furthermore, through collaboration with SLTs and parents, teachers can assist in the reduction of communicative stress and provide CWS with more positive speaking experiences (Boberg, 2012).

The importance of collaboration with teachers in the management of CWS within the classroom setting has been highlighted. For the current exploratory study, the initial aim is to understand teachers' attitudes toward stuttering as a basis for informing intervention planning.

Defining attitudes.

In the literature there are several terms like attitude, opinion, perspective and belief used in this domain of study. The researcher has used the term attitude which aligns with Maio and Haddock's (2009) description: 'an overall evaluation of an object that is based on cognitive, affective, and behavioural information' (p. 4). The authors highlight that attitudes can differ in valence i.e. an attitude can be positive, negative or neutral and can differ in strength.

The other terms commonly associated with attitudes include beliefs, opinions, views and perceptions, to name a few (Pajares, 1992). In stuttering research a number of terms have been used to describe attitudes (e.g. perceptions, Betz, Blood, & Blood, 2008; Lass et al., 1994; Lass et al., 1992; attitudes, Abdalla & St. Louis, 2012; Al-Khaledi, Lincoln, McCabe, Packman, & Alshatti, 2009; Özdemir, St. Louis, & Topbas, 2011; and opinions Klassen & Kroll, 2005). Pajares (1992) noted that the word beliefs has not been clearly defined in the literature and suggests that the difficulties may be related to the differing agendas of studies. As beliefs are studied in many different fields, the result is a variety of meanings for this construct.

For the purposes of the current study, the researcher was guided by based on consultation with the developer of the POSHA-S, Kenneth St. Louis. The term attitudes was selected because it encompassed the other associated terms (personal communication, K. O. St. Louis, 8 December, 2014). The term attitudes includes knowledge, beliefs and reactions to stuttering and people who stutter (PWS, personal communication, K. O. St. Louis, 8 December, 2014). This understanding of attitude

underpinned the development of POSHA. When discussing respondents as the public, the term public opinion is used in the literature (personal communication, K. O. St. Louis, 8 December, 2014). In the review of the literature, the researcher has used the terms used by the authors. As previously stated, the attitudes of teachers can have a significant effect on CWS and their environment. Understanding teachers' attitudes is paramount in creating professional development programmes tailored to teachers' needs.

The relationship between attitudes and behaviour.

According to Ajzen and Gilbert Cote (2008), attitudes form an important part in understanding and predicting behaviour. The link between attitudes and behaviour is complex (Barker, 2007). Teachers' beliefs influence their perceptions and their judgements, which have an impact on their behaviour in the classroom setting (Pajares, 1992). Rimm-Kaufman and Sawyer (2004) noted that the attitudes, beliefs and priorities of teachers have a close relation to their classroom behaviours and practices, forming the framework for decision-making. Understanding the belief structure that teachers have is critical to improve teaching practices (Pajares, 1992). This view is based on the assumption that the best indicators of the decisions people make during their lives are influenced by their beliefs (Bandura, 1986).

The impact of professional development programmes on teacher change.

It is important to understand teachers' and student-teachers' beliefs as they are critical to improving professional preparedness and teaching practices (Pajares, 1992). Programmes for professional development are efforts to facilitate change in teachers' attitudes and beliefs, their classroom practices, and learners' learning outcomes (Guskey, 2002). Even though professional development programmes are considered to be crucial to an improvement in education, research has indicated that many are ineffective because teachers' views are not understood as a basis for planning intervention (Guskey, 2002; Guskey & Yoon, 2009). Many professional development programmes are designed to initiate a change in the attitudes and beliefs of teachers. Through changing the attitudes of teachers, it is presumed that it will lead to changes in their classroom practices and behaviour, which will subsequently improve outcomes for learners. This perception of teacher change developed largely from a model designed by theorists such as Lewin (1935). More recent research has indicated that there may be inaccuracies in the model assumptions when considering professional development programmes geared for experienced teachers (Guskey, 2002).

Guskey (2002) proposed an alternate model to assist in creating professional development programmes which are more effective, namely the Model of Teacher Change. Based on the model, significant change in the attitudes of teachers occurs mainly following evidence of improvement in the learning of students (Guskey, 2002). Improvements are generally as a result of changes to classroom practices such as new instructional methods, new materials or a change in teaching procedures (Guskey, 2002). It is important to note that it may not be the professional development programme that results in a change in teachers' attitudes and beliefs, but rather the experience of successfully implementing the changes (Guskey, 2002). A key element in the model is that significant change in teachers' attitudes occurs once there is evidence of improvement in student learning outcomes (Guskey, 2002). The model proposed by Guskey (2002) is aligned with George Kelly's (1955) Personal Construct Theory which states that all theories are tentative and that they need to be changed over time in order to improve accuracy and applicability. As the current study is concerned with understanding attitudes of teachers as a precursor to attitude change, it is important to consider how teacher change occurs.

In order for professional development programmes for teachers to be successful, it is important, as an initial step, to determine the attitudes teachers hold toward stuttering and PWS, and the selected demographic factors which may influence attitudes. Following which, intervention strategies can be created which take into consideration the Model of Teacher Change. In this way, the attitudes of teachers can be positively changed and subsequently teachers' behaviour and classroom practices can be modified through training to promote a more fluency friendly environment.

Importance of context.

It is clear that there are differences in opinions about stuttering worldwide, possibly due to the unique context of each country with regard to religion, culture, language, nationality and ethnicity (Abdalla & St. Louis, 2012; St. Louis, 2005). This highlights the importance of gaining an understanding of stuttering internationally, especially in areas where little is known about the condition. In South Africa, due to the vast differences in the culture, ethnicity, education levels etc. of the population, it is important to understand how groups of individuals' attitudes differ from one another. The results of this study will provide information pertaining to the impact of context on attitudes and how selected demographic factors may shape attitudes and behaviours toward stuttering.

Previous studies have considered peer attitudes toward stuttering (Badroodien et al., 2011), but no study conducted in South Africa, has considered the attitudes of teachers in South Africa toward stuttering. The current study aims to broaden knowledge around teachers' attitudes, where research is

lacking. The study also aims to explore selected demographic factors. The description of the context will provide background and strengthen the rationale for this aim.

1.5 Study Context

South Africa is a multilingual, culturally diverse country with 11 official languages. Teachers are required to educate learners from vastly different cultures, languages and backgrounds to their own (Meier & Hartell, 2009) and, therefore, the school context in which teachers work is diverse.

Apartheid shaped the socio-political conditions within South Africa (Engelbrecht, Oswald, & Forlin, 2006). The policies of apartheid created social inequalities and poverty between races (i.e. African, Coloured, Indian and White, Engelbrecht et al., 2006). The educational policies during apartheid aimed to maintain white supremacy by providing white children with education of a higher quality compared to other races (i.e. African, Coloured, Indian), which resulted in large disparities in education and inequalities along racial lines (Engelbrecht et al., 2006). Africans, who make up the majority of the South African population, were provided with inferior education in order to maintain their status as labourers (Kathard et al., 2011). The Bantu Education Act of 1953 aimed to ensure that Africans received inferior education (Asmal & James, 2001; Hartshorne, 1992). Bantu education was characterised by a lack of resources (i.e. textbooks, learning material), poor infrastructure and rundown and overcrowded classrooms (Hartshorne, 1992).

Since the abolition of apartheid in 1994, the South African government has endeavoured to transform the social, political and economic inequalities into a democracy which strives to provide all citizens with equal opportunities (Motala, 2006). The transformation of the education system was a key aspect of this reform (Mestry & Ndhlovu, 2014; Motala, 2006). In post-apartheid South Africa, policy changes in education led to desegregation of schools and many other changes to the education system and institutions. Since apartheid, the teaching profession has had to cope with the movement to a single, national system, as well as a change of curriculum, which acknowledges the importance of professional autonomy. Teachers were required to gain new knowledge and competencies with drastic changes to the composition of classrooms, demographically, linguistically and culturally (Department of Education, 2006). Poor infrastructure and facilities for poor people, inadequacy of teacher training and a lack of decent amenities highlight the profound and persistent effects of the inequalities of apartheid in education (Department of Education, 2006).

Teachers were unprepared for these changes and have, therefore, felt challenged (Forlin, Loreman, Sharma, & Earle, 2009; Meier & Hartell, 2009). Although transformation has occurred over twenty years, the legacy of apartheid has greatly affected the education sector and the implications are still evident today (Meier & Hartell, 2009). To date, the majority of learners in African schools struggle to meet academic requirements during their schooling years (van der Berg, 2005). In classrooms which are desegregated, teachers are challenged by numerous issues including the linguistic, cultural and academic diversity of learners who are of different social and economic backgrounds (Meier & Hartell, 2009). The background provided is to highlight that the education sector is struggling and there are frequent outcries that the system is not providing good quality education. Therefore, when trying to understand the attitudes of teachers, this contextual background must be kept in mind.

The majority of teachers currently in the schooling system were educated and entered the teaching profession during apartheid. Their profession was negatively affected by the unequal education system, especially the Bantu education system (Wium, Louw, & Eloff, 2010). It is important to note that teachers trained during apartheid continued in the profession post-apartheid, without sufficient training or support (Oswald, 2007; Wium et al., 2010). Students currently graduating into the teaching profession are one of the first to experience the newly transformed education system (Department of Education, 2006). The teachers of the past and present have very little training on communication and communication impairment in the classroom (Navsaria, Pascoe, & Kathard, 2011). Therefore, when faced with communication challenges, they rely on their own resources and have signalled their need for additional support to improve general communication, as well as on how to manage children with specific communication problems (Navsaria et al., 2011).

The current teacher profile.

The current teacher-demographics are as follows: females make up 67% of all the educators in the country (Department of Education, 2011); 47.9% of all educators were forty-years or younger with a further 37.2% falling within the 41- to 51-year age bracket and 14 % in the 51- to 60-year age group (Arends, 2007). According to Mda and Erasmus (2008), the average age of teachers in South Africa bears resemblance to the average ages of teachers in other parts of the world. It is clear that the majority of teachers currently in the school system were educated and trained during apartheid.

Based on the Norms and Standards for Educators (2000), teachers who obtained a three-year post-school qualification are considered to have adequate qualifications [i.e. Relative Education

Qualification Value (REQV) 13]. However, the National Policy Framework for Teacher Education (2006) revised the entry-level requirements requiring all teachers be REQV 14 (i.e. either a four-year Bachelor of Education degree or a three-year junior degree with a one year post-graduate diploma). In 2004, there were 14.7% of teachers who could be regarded as under-qualified (i.e. had a qualification of REQV 12 or lower). The statistic is of concern as more than 50 000 teachers are under-qualified (Mda & Erasmus, 2008). Furthermore, according to Arends (2007), white teachers are generally qualified while teachers from other racial groups show varying levels of under-qualification.

Based on reports from teachers who have remained in South Africa, education managers and school governing bodies have indicated that there has been a steady migration of qualified teachers to other counties (Mda & Erasmus, 2008). In some instances, with devastating effects on classrooms (Mda & Erasmus, 2008). According to Arends (2007), the following reasons have contributed to the migration of teachers from the profession or to other countries: to obtain better job satisfaction; disaffection; low compensation/job status; and frustrating/unpleasant work environment such as large classrooms and limited resources.

Across the education sector, teachers are faced with great challenges to achieve successful education. Even within schools, there are differences in the context and challenges faced by teachers. The current study acknowledges that teachers are educating learners in vastly unequal contexts and therefore examined schools across various quintiles – described below. The implications of the unique context of the South African education system could potentially have an impact on the findings of the research. It is therefore important to gain an understanding of teachers' attitudes toward stuttering in general. Furthermore, a more in-depth analysis of teachers' attitudes through the exploration of selected demographic factors could potentially highlight differences in attitudes among groups of individuals.

Funding to schools based on quintile.

National policies were implemented in order to redress the post-apartheid inequity through equalising funding through state funding to the public schools (Mestry & Ndhlovu, 2014). The statutory structure for school funding is provided by the National Norms and Standards for School Funding policy, which classifies schools according to quintile (Mestry & Ndhlovu, 2014). Quintiles are calculated based on resourcing (Motala, 2006) and poverty scores (Sayed & Motala, 2012). The poverty indicators include: income; unemployment; and level of education in the community (Sayed & Motala, 2012).

Quintiles one and two are 'no fee paying schools' while quintiles four and five are better resourced (Sayed & Motala, 2012). In theory, quintile three is viewed as the benchmark for how much money should be spent on a learner in order for that learner to obtain an adequate education (Sayed & Motala, 2012). The Western Cape, where this study is located, is a province that is generally regarded as well-resourced with 14.5% of schools in quintiles one and two, 23.1% in quintile three and 62.3% in quintile four and five (Department of Education, 2003a).

South Africa's history of apartheid has also contributed to the shortage of qualified teachers based on race. As apartheid created race inequalities, where unequal education was offered to different races, the quality of teacher training available to teachers among races is uneven (Mda & Erasmus, 2008). As a result, formerly 'white' schools are still better equipped than formerly 'black' schools (Mda & Erasmus, 2008). Teachers with a higher level of education are therefore more inclined to work at formerly white schools (Mda & Erasmus, 2008). Governing bodies of formerly white schools are also able to pay for more teachers (Mda & Erasmus, 2008). This further highlights the differences in quality of education between the higher- and lower-quintile schools. Not only do schools in the higher quintile have more access to money and resources, they also attract teachers with a high standard of education.

The performance of learners from varying socio-economic backgrounds differs greatly (van der Berg, 2005). Learners from more affluent backgrounds in South Africa typically outperform the poorer learners (van der Berg, 2005). 'The degree to which South African students are disadvantaged on account of their background is exacerbated by marked inequality in outcomes between schools' (van der Berg, 2005, p. 67). Based on the analysis of the Annual National Assessment in 2010, Bansilal (2012) explored the strengths and weaknesses of teaching and learning numeracy and literacy in the first six years of schooling in KwaZulu-Natal, South Africa. Based on quintile, it was clear that learners from quintile five achieved the highest average for all grades (Bansilal, 2012). There was a great disparity between the results for the highest and the lowest quintile (Bansilal, 2012). It is clear that learners from the lower quintiles are underperforming while most of the learners in the highest quintile are performing well (Bansilal, 2012). Spaull (2011) noted that the extent to which the highest quintile outperforms the lowest quintile is so great that it seems as though there are two education systems, not one. As a result, the situation that teachers in the lower quintile find themselves in is challenging and they lack the necessary preparation and training to manage.

Given the diversity of the schooling system, it is therefore important to sample and compare schools across the different quintiles. In this study, teachers from both the lower (i.e. quintile one and two) and

higher (i.e. four and five) quintiles were included. Given that the study is intended to influence service planning, the intention was to begin the survey in two of the four urban districts (Cape Metro Central, Cape Metro North, Cape Metro East and Cape Metro South). While further surveys may compare the urban and rural districts, and include quintile three, this study chose the Cape Metro East and Cape Metro Central. Cape Metro Central has the highest concentration of schools in quintile four and five while Cape Metro East has a high concentration of quintile one and two schools as demonstrated in Table 1.1.

Table 1.1

Distribution of schools in quintiles in Cape Metro East and Cape Metro Central education districts

Quintile	Q1	Q2	Q3	Q4/5	Total
Metro east	0	26	14	57	97
Metro central	0	1	14	139	154
Total	0	27	28	196	251

Source: Department of Education 2006.

Teaching phase and its potential implications for CWS.

In South Africa, primary schools are separated into foundation and intermediate phases. Teachers in the foundation phase educate learners from grades 1 to 3 whereas teachers in the intermediate phase educate learners from grades 4 to 7 (Department of Education, 2003b).

In the foundation phase, the mastering of basic literacy, numeracy and life skills form the focus in order to prepare learners for the change from 'learning to read' to 'reading to learn' in the later phases (Mullis, Kennedy, Martin, & Sainsbury, 2006). As highlighted by Yeakle and Cooper (1986), during a child's primary years, their academic performance is highly dependent on oral communication compared to the higher grades where reading and writing are more essential. The differences in demands on the child, could potentially have an impact on the views of teachers as the results of the study conducted by Yeakle and Cooper (1986) noted that teachers who taught the upper grades were less likely to believe that stuttering was the most disruptive speech and/or language disorder.

There is a lack of supply and demand of teachers especially within the foundation phase (Western Cape Department of Education, 2009). According to the Department of Education (2006), the class sizes

may vary depending on the availability of teachers. There is a shortage of teachers, especially those teaching an African language, in the foundation phase. The findings could potentially indicate a higher learner-to-teacher ratio in the foundation phase of schools in the lower quintile which accommodate a larger percentage of African learners. The study by Pachigar, Stansfield, and Goldbart (2011) highlighted the fact that high learner-educator ratios may have an impact on whether teachers think of stuttering as a priority or whether they even pick up that a child stutters.

In the foundation phase (i.e. grades 1-3), children are generally between the ages of approximately five to nine years, whereas in the intermediate phase (i.e. grades 4-6), children are generally between the age of approximately 10 to 12 years (Department of Education, 2012). As stuttering presents differently in younger and older age groups, teachers in the foundation and intermediate phase may have differing views on stuttering. There is no understanding of attitudes of teachers toward stuttering across teaching phases, if important differences in attitudes are found it would have significant implications for interventions (e.g. differing focus of professional teacher-development courses for teachers in the different teaching phases). As a result, the current study aimed to obtain a sample of teachers representing both foundation and intermediate phase teachers

Inclusive education.

As previously stated, CWS are typically in mainstream schools. Based on the inclusive education policy, which states that teachers are also required to accommodate all learners and respect learner differences regardless of age, gender, ethnicity, language, class, disability, or HIV status (Department of Education, 2001), CWS need to be catered for. The lack of support and resources available, coupled with negative attitudes toward disability, all contribute to the difficulties with implementation of inclusive education in South Africa (Bornman & Rose, 2010). As children with speech and language difficulties, including CWS are in mainstream schools, it is crucial that teachers are able and prepared to work with them (Marshall, 2002). For successful inclusion, it may be important to understand how teachers view CWS (Marshall, 2002).

As previously noted, inclusive practice in general is challenging (Donohue & Bornman, 2015). The study conducted by Marshall (2002) highlights the difficulties associated with inclusion of children with communication difficulties. Marshall (2002) aimed to determine student teachers' attitudes towards children with speech and language difficulties and the implication of the findings for inclusive education policies. The results of the questionnaire indicated that although student teachers attempted

to be positive, they still exhibited stereotypical answers in relation to inclusion (i.e. all learners should be included in principle but considerations needed to be made, Marshall, 2002). The major barriers to inclusive education of children with speech and language difficulties, as noted by student teachers, were lack of time, resources and training (Marshall, 2002). Marshall (2002) concluded that a change in attitudes is essential and should form the first step, followed by resources or training. Through gaining an understanding of teachers' attitudes, efforts can begin to either reinforce positive attitudes or behaviours, or dispel misconceptions and, in so doing, address inclusive education for CWS.

Among the many challenges, it is well-documented that the needs of children with communication disabilities – of which stuttering is a part – are not addressed as they may not be accurately represented in the estimates of those with disabilities (Wylie, McAllister, Davidson, & Marshall, 2013). Resultantly, there may be a lack of attention given to rehabilitation and support from the community for people with communication disabilities (Wylie et al., 2013). The situation challenges SLTs to take a wider view on communication disability, including shifting attention to more population-based assessment and intervention (Wylie et al., 2013). As an initial step, the identification of attitudes toward CWS among teachers needs to be determined before steps can be taken to facilitate attitudinal change. The current study aims to gain an understanding of teachers' attitudes toward stuttering in order to inform future intervention planning and resource creation within the South African context.

1.6 Overview of the Chapters

The chapters are arranged as follows:

Chapter 2 provides a review of the literature related to: (1) attitudes toward stuttering; (2) the relationship between attitudes and behaviours; (3) the development of a tool to measure attitudes (i.e. POSHA-S); (4) published studies using the POSHA-S; (5) Impact of teachers' and peers' attitudes on CWS; (6) studies considering teachers' attitudes towards stuttering which utilise different methodologies; and (7) the personal and teaching factors which could have an influence on attitudes (i.e. culture, gender, familiarity, age and years of teaching experience).

Chapter 3 provides a description of the research methodology used. The chapter discussed the research design, participants, the sample size and method, recruitment, the questionnaire used (i.e. POSHA-S), the procedure and pilot study, data analysis, and the ethical considerations.

Chapter 4 details the results in accordance with the aims of the study. It presents the descriptive analysis of the results according to the subscores of the questionnaire, followed by classroom management strategies. The South African sample is compared to the POSHA-S database archive. Finally, the association between selected personal and teaching demographic factors and attitudes scores on the POSHA-S are explored.

Chapter 5 considers the implications of the results and draws comparisons with the literature. The discussion is structured in relation to the aims of the study. Potential rationale for the findings, implications, and comparisons with the literature are discussed throughout. The descriptive analysis and the comparison to the POSHA-S database archive are presented, followed by a more in-depth analysis of the selected demographic factors. Conclusions which can be drawn from the study, the strengths and limitations of the study, and the implications for clinical practice and future research are discussed.

1.7 Definition of Key Terms and Abbreviations Used in the Study

Key terms and abbreviations are provided as they are discussed in the document:

Stuttering – a condition characterised by repetitions, prolongations and blocks (Guitar, 2006). It manifests not only physically, emotionally and linguistically, but socially as well (Przepiorka, Blachnio, St. Louis, & Wozniak, 2013).

Attitudes – 'an overall evaluation of an object that is based on cognitive, affective, and behavioural information' (Maio and Haddock, 2009, p. 4). For the current study, the term attitudes includes knowledge, beliefs and reactions to stuttering and PWS (personal communication, K. O. St. Louis, 8 December, 2014).

Quintile – categorisation of schools in South Africa into five groups for the purposes of financial resource allocation. The quintile rank of the school determines the amount of funding the school receives from the government each year and whether or not the school will charge fees (Western Cape Department of Education, 2013).

Components – items in the POSHA–S are combined to form a component score (St. Louis, 2012c)

Subscore – component scores combined to form a subscore (St. Louis, 2012c)

Overall stuttering score – two stuttering subscores (Beliefs about Stuttering and Self-reactions to Stuttering) combined to form the Overall Stuttering Score (St. Louis, 2012c)

Foundation phase – teaching grades 1 – 3 (Department of Education, 2003b).

Intermediate phase – teaching grades 4 – 7 (Department of Education, 2003b).

CWS – children who stutter

PWS – people who stutter

POSHA-S – Public Opinion Survey of Human Attributes – Stuttering

POSHA-E – Public Opinion Survey of Human Attributes – Experimental

SLT – speech-language therapist

IPATHA – International Project on Attitudes toward Human Attributes

Chapter 2 – Literature Review

2.1 Overview of Chapter

Chapter 2 provides the literature pertaining to general attitudes toward stuttering. The methods of collecting data about attitudes are discussed. Research and development of the POSHA-S and rationale for using the tool in the current study is explained, followed by a summary of the results of pivotal studies conducted using the POSHA-S from a variety of countries, languages and cultures. The impact of teachers' and peers' attitudes toward CWS is discussed. An in-depth analysis of studies examining teachers' attitudes with varying methodologies is presented. The potential factors influencing attitudes towards stuttering are described. The importance of understanding teachers' attitudes and its implications of intervention planning are emphasised throughout.

2.2 The Impact of Stuttering

Stuttering is a complex speech disorder, which manifests not only physically, emotionally and linguistically, but socially as well (Przepiorka et al., 2013). Participation and functioning in society can be impeded (Craig, Blumgart, & Tran, 2009) due to the way a PWS is perceived (Przepiorka et al., 2013). Negative affective, behavioural or cognitive reactions, from both the PWS and the environment, can limit the PWS's ability to participate in daily activities and could negatively affect their quality of life (Yaruss & Quesal, 2004). The International Classification of Functioning, Disability and Health highlights the importance of not only body structure and function, but also the limitations to the performance of daily activities and participation (Yaruss & Quesal, 2004). It is therefore important to gain an understanding of public attitudes toward stuttering as they contribute to the social environment of PWS.

'Stigmatised individuals possess (or are believed to possess) some attribute, or characteristic, that conveys a social identity that is devalued in a particular social context' (Crocker, Major, & Steele, 1998, p. 505). Blood, Blood, Tellis, and Gabel (2003) suggest that stuttering is stigmatised, as a result of the chronic nature of stuttering, coupled with the listeners' perception of a lack of control in the PWS and the negative attitudes associated with stuttering. It is therefore possible that PWS experience situations where they are stigmatised specifically during verbal communication and social interactions (Blood et al., 2003).

2.3 Current Literature on Stuttering

Research on public attitudes toward stuttering has been conducted internationally. In the USA and Australia, it has been found that PWS are stigmatised. Insecure, guarded, shy, avoidant, quiet and nervous were all negative adjectives used to describe personality traits using hypothetical models or bi-polar adjective scores. These attitudes have been reported across many different groups, including university learners and professors (Dorsey & Guenther, 2000), laypeople (Craig, Tran, & Craig, 2003), children (Franck, Jackson, Pimentel, & Greenwood, 2003) and even speech-language therapists (Cooper & Cooper, 1985; Cooper & Cooper, 1996; . School teachers are no exception (Lass et al., 1994; Lass et al., 1992). These negative attitudes are prevalent, creating social circumstances PWS encounter in their everyday lives (MacKinnon, Hall, & Macintyre, 2007). Negative attitudes teachers hold toward stuttering can have a significant effect on their behaviour toward a CWS.

Due to the stigma associated with stuttering, literature stressing the need for public awareness and education is becoming more abundant (St. Louis, 2012c). It is assumed that a well-informed public would be less likely to have flawed beliefs and reactions towards stuttering (St. Louis, 2012c). If you can change the social environment, PWS could face positive or neutral reactions and, as a result, the impact of their stutter could be lessened (St. Louis, 2011). In essence, there is a link between attitudes and behaviours. If you can positively change attitudes, behaviour can subsequently be improved. If achieved, the quality of life of PWS would be enhanced. However, this is based on the assumption that providing the public with accurate information about stuttering, will serve as motivation for the public to behave in ways which are more understanding and/or empathetic (St. Louis, 2011).

2.4 The Development of the POSHA-S

In order to explore attitudes toward stuttering, researchers require the use of a research tool. Many survey instruments have been created to measure attitudes toward stuttering for example: Teachers' Perceptions of Stuttering Inventory (TPSI, Yeakle & Cooper, 1986), Teachers' Attitudes toward Stuttering Inventory (TATS, Crowe & Walton, 1981), Clinicians' Attitudes Toward Stuttering (CATS, Cooper, 1975), Communication Attitude Test for Preschoolers and Kindergarteners (KiddyCAT, Vanryckeghem & Brutten, 2002). It has been difficult to compare findings between studies which utilise different survey instruments. In order to address the lack of a standardised measure, the International Project on Attitudes Toward Human Attributes initiative developed the POSHA–S which is designed to measure public opinion on, and attitudes toward, stuttering worldwide (St. Louis, 2011).

As the POSHA-S is concerned with understanding public opinion (St. Louis, 2011), it is important to consider the idea of public opinion and how teachers form part of the public. According to Phillips Davison (2014), public opinion is '…an aggregate of the individual views, attitudes, and beliefs about a particular topic, expressed by a significant proportion of a community' (p. 1). The element of publicity related to public opinion should be acknowledged (Shamir, 2004). There is a distinction between 'public' and 'private' opinion. Public opinion is a shared occurrence. The idea of public opinion does not only encompass the tracking of the majority opinion but it also considered a normative opinion as it is perceived to be the opinion of the majority (Shamir, 2004). Public opinion can be seen as the collective views of a specific population (Phillips Davison, 2014). For the current study, the specific population in question are teachers and the study aims to understand teachers' attitudes toward stuttering as a collective.

The POSHA-S was designed to aid in: (1) creating an improved measurement of public attitudes toward stuttering, (2) moving toward a more standardised measure which would allow for comparisons to be made across investigations around the world, and (3) determining the effectiveness of strategies in reducing stigma attached to stuttering (St. Louis, 2012c). It was designed to determine attitudes toward stuttering in relation to positive (i.e. intelligence), negative (i.e. mental illness, obesity) and neutral (i.e. left-handedness) attributes. These attributes were included in the POSHA-S as 'attitudes toward stuttering will be more meaningful within the context of attitudes toward other human conditions' (St. Louis & Roberts, 2010, p. 362). To assess public opinion, the POSHA-S groups items together to form components and groups components to form subscores (St. Louis, 2012c). There are two subscores related to stuttering, namely Beliefs about Stuttering and Self-Reactions to Stuttering (St. Louis, 2012c). The Beliefs about Stuttering subscore considers participant impressions and thoughts about stuttering that are unrelated to the participant personally (Przepiorka et al., 2013). For example, it considers the cause of stuttering and who should help (Przepiorka et al., 2013) neither of which relate directly to the participant completing the questionnaire. The Self-Reactions to Stuttering subscore accounts for participants' self-appraisals of their behaviour, reactions and knowledge (Przepiorka et al., 2013). This study uses the POSHA-S because it covers important dimensions of attitudes. Published POSHA-S studies have been conducted in various languages and across different cultures using modified versions of the POSHA-S. Table 2.1 summarises all of the published POSHA-S studies in chronological order.

Table 2.1

Summary of POSHA-S studies

Year	Country (version of POSHA-S used)	Study population (size)	Main findings
2014	Poland (POSHA-S)	Public (268)	Held similar attitudes as previous POSHA-S studies worldwide. Misconceptions about causes of stuttering (Przepiorka et al., 2013).
2014	USA, Poland (POSHA-S)	SLT (undergraduate/ postgraduate) and non-SLT students (400)	SLT students held more positive attitudes toward stuttering than non-SLT students in both countries (St. Louis, Przepiorka, et al., 2014).
2014	Norway, Puerto Rico (POSHA-S)	Public (150)	Both countries attitudes similar for stuttering, slightly less positive for cluttering. Norwegian attitudes generally more positive (St. Louis, Sønsterud, Carlo, Heitmann, & Kvenseth, 2014).
2012	Participants selected from the database (POSHA-S)	Adult Male (50) Female (50)	No significant attitudinal differences were noted between males and females (St. Louis, 2012a).
2012	Virginia/ Maryland (POSHA-S)	Friends, family, acquaintances (120)	Public attitudes very similar between different administration methods even though a few substantial differences noted. POSHA-S is therefore a robust tool for use irrespective of method of administration (St. Louis, 2012b).
2012	Hong Kong, Mainland China (POSHA-S)	Friends, family members, acquaintances (350)	Idiosyncratic differences between the attitudes of the participants – among the most positive and the most negative for components (Ip, St. Louis, Myers, & Xue, 2012).
2011	Turkey (POSHA-S)	Parents (50) Children (50) Grandparents (50) Neighbours (50)	Little difference in attitudes of children, parents, neighbours. Attitudes toward stuttering less positive than POSHA-S database, although some attitudes among most positive (Özdemir et al., 2011).

Table 2.1. *Summary of POSHA-S studies* (continued)

Year	Country (version of POSHA-S used)	Study population (size)	Main findings
2011	USA (POSHA-S)	High school learners (83) taught by one teacher	Attitudes of learners similar to those of adults sampled (e.g. stereotypical beliefs that PWS are shy, quiet etc.). Attitudes can be positively changed with classroom intervention (Flynn & St. Louis, 2011).
2010	Canada, Cameroon [POSHA-Experimental (E)]	Speakers of English and French (120)	Largest difference in attitude scores noted for Canada vs. Cameroon. English vs. French comparisons much lower. Therefore between-country differences much larger than between-language differences (St. Louis & Roberts, 2010).
2009	Kuwait (POSHA-E)	Arab parents (424)	Familiar but knowledge limited. General positive attitudes but negative attitudes related to personality and capability (Al-Khaledi et al., 2009) .

As highlighted by Abdalla, St. Louis, Schuele, and Kelly (2014), there continue to be mixed opinions and beliefs about PWS. Table 2.1 serves to further confirm that various groups of people, from diverse cultural and linguistic backgrounds, have different attitudes toward PWS.

The POSHA-S allows researchers to compare the study-sample attitudes to the database archive of all studies conducted. The database archive is comprised of all three versions of the POSHA-S (i.e. POSHA-E1, POSHA-E2, POSHA-S, personal communication, K.O. St. Louis, 31 October, 2014). Currently, the database archive consists of 10,174 participants representing 36 countries and 22 languages. Samples have been gathered from many different professions including learners, family members of a PWS, and even food and hospitality service workers (St. Louis, 2014, for a more comprehensive list of all countries, languages, and professions refer to Appendix A). Comparisons can be drawn from results of the study to the median, lowest and highest sample means in the databases archive so that researchers are able to determine the extent to which their sample is comparable or different to previous research samples (St. Louis, 2011). Currently in the database archive, the highest overall stuttering score to date was obtained from a sample of stuttering, self-help leaders, suggesting that they held the most favourable attitudes toward stuttering, with the lowest score from a group of mid-socioeconomic status parents in Karnataka, India, suggesting they held the least favourable (personal communication, K.O. St. Louis, 11 November 2014).

During the piloting of the POSHA-S, a small sample from South Africa was included and this data also forms part of the database archive. When considering the distinctive characteristics of South Africa, shaped by historical racial and cultural influences, the context in which people live is different socially, culturally, economically and politically from the other countries represented in the database. It is therefore essential for researchers to determine how stuttering is viewed in a particular context (Abdalla & St. Louis, 2012), and this study focuses on teachers in the Western Cape, South Africa.

2.5 Impact of Teachers and Peers Attitudes on CWS

Children typically spend many hours of their day at school over many years. The effect of the school environment and the influence of teachers, as well as their peers, on the CWS shouldn't be underestimated. Previous research has found that the judgements made about a person's intelligence and personality is influenced by the fluency of the speaker (Franck et al., 2003). Research has found that school-age children have a negative perception towards their peers who stutter (Langevin, Kleitman, Packman, & Onslow, 2009). Franck et al. (2003) conducted a study to determine perceptions of school-age children toward a PWS. Learners from fourth- and fifth-grade classes were presented with a videotape of either a fluent or non-fluent speaker. The results indicated that school-age children held more negative perceptions of a CWS compared to children who did not stutter. Similarly, Langevin et al. (2009) found that close to one-fifth of participants had mean scores which ranged from somewhat negative to very negative for their perceptions of a CWS. The behaviours and feelings of non-stuttering children can have an influence on their peers. The results of the study highlighted that the negative attitudes of some children can have a negative influence on their peers and their peers' behaviours and feelings toward CWS (Langevin et al., 2009). Although peers of CWS are not the focus of the study, their influence is described here to highlight that teachers' attitudes, coupled with the learner influence, form the daily environment of CWS.

Teachers' behaviours toward CWS can have an impact on the way CWS are viewed and treated by their peers (Boberg, 2012; Jenkins, 2010). According to Blood and Blood (2004), due to the possible negative effect that stuttering can have on verbal communication and social interactions, together with the low social status of CWS and the fact that peers hold negative attitudes, CWS are at risk of being bullied within the school context. Therefore, Langevin et al. (2009) emphasised the importance of establishing school-based programmes to address stuttering. Teachers can assist in reducing the effects of negative social experiences of CWS with their peers through addressing teasing and bullying directly. An article by Murphy, Yaruss, and Quesal (2007) highlighted strategies that could be used to

address teasing and bullying. Furthermore, improving teachers' attitudes toward stuttering may assist in improving the attitude of peers of CWS.

2.6 Teachers' Attitudes toward Stuttering

Only one published study in the POSHA-S database archives investigated school teachers' knowledge, beliefs and reactions towards stuttering (Abdalla & St. Louis, 2012). Abdalla and St. Louis (2012) examined Arab schoolteachers' knowledge, attitudes and beliefs about stuttering. The questionnaire was adapted to include the characteristics of stuttering and how teachers manage children in the class. Participants were Arabic residents of Kuwait who were either in-service public-school teachers (i.e. grades 1 – 12, n = 262) or pre-service schoolteachers (n = 209). The results of the study found that teachers were familiar with stuttering, but further education was necessary as misconceptions about the cause of stuttering, personality stereotypes, role entrapment (i.e. cannot do any job they want) and strategies for coping with stuttering (i.e. repetition of word until child able to say it, filling in words etc.) were evident (Abdalla & St. Louis, 2012). More recently, Abdalla et al. (2014) evaluated an intervention which aimed to foster more positive attitudes to stuttering.

In order to gain a comprehensive understanding of the views teachers have toward stuttering, it is important to review a range of studies which utilise different methodologies to the POSHA-S studies. Early studies (Crowe & Walton, 1981; Yeakle & Cooper, 1986) noted that teachers held negative attitudes toward PWS. Yeakle and Cooper (1986) designed the TPSI to assess teachers' attitudes toward stuttering. Teachers from schools in Tuscaloosa City, USA completed the questionnaire (n=521). Approximately 48% of teachers who completed the questionnaire taught from kindergarten to grade six, 41% taught grades seven to 12 and 9% were either specialists, teachers of adults, or those who did not provide a response. The results indicated there was a substantial number of teachers who held unsubstantiated views on the aetiology of stuttering and personality characteristics of PWS. Fewer erroneous views were associated with more classroom experience and coursework on stuttering.

Similarly, Crowe and Walton (1981) aimed to determine 100 Mississippi elementary-school teachers' attitudes toward stuttering and to examine the relationship between attitudes to knowledge about stuttering, level of education, years of teaching experience, age and personal experience with stuttering in the classroom, or as a parent. The TATS was used to measure teachers' attitudes and the Alabama Stuttering Knowledge (ASK) Test was used to determine teachers' classroom knowledge of stuttering. The results indicated that teachers with better knowledge about stuttering demonstrated more desirable attitudes. No significant correlations were found for level of education, years of teaching experience,

age or whether they had a CWS in their class. Crowe and Walton (1981) emphasised that the identification of negative attitudes toward stuttering, together with educational programmes could improve communicative interactions in the classroom and subsequently complement therapy. Both studies (Crowe & Walton, 1981; Yeakle & Cooper, 1986) noted the importance of improving knowledge about stuttering as key to increasing positive outlooks.

Hobbs (2012) conducted a study to determine teachers' knowledge and perceptions of stuttering prior to and following in-service training. There were 23 elementary and secondary teachers who participated, all from Wolfe County Kentucky, who currently had learners in their classroom who stuttered. The ASK Test and the TATS were both used to measure knowledge and perceptions about stuttering before and after intervention. The results of the study indicated there was a significant difference in teachers' overall knowledge of stuttering, and their perceptions of their learners who stutter, following training. Hobbs (2012) concluded that there was a relationship between knowledge and perceptions of teachers towards learners who stutter in their classroom.

A mixed method study in Mumbai examined Indian teachers' attitudes toward CWS (Pachigar et al., 2011). The researchers developed a questionnaire based on the TPSI and the TATS and sent it to teachers in four primary schools (n=58, Pachigar et al., 2011). Following which, semi-structured interviews were conducted with four of the participants. They found that many teachers had not been provided with any formal information about stuttering and they reported having limited experience with CWS (Pachigar et al., 2011). The responses to the questionnaire indicated that there were broadly positive attitudes toward CWS. The interview process also highlighted a positive approach to dealing with CWS in the classroom, specifically related to decreasing the pressure placed on the child, and subsequently reducing stress and anxiety (Pachigar et al., 2011).

Similar positive results were found by Irani, Abdalla, and Gabel (2012). They aimed to determine Arab teachers' attitudes toward PWS and to compare their attitudes with American teachers to determine if cultural differences were present. A semantic differential scale was used. The results indicated that Arab teachers generally showed neutral to positive attitudes toward PWS, while almost one third of Arab teachers indicated negative attitudes on questions related to employment and social skills. Although both sets of teachers generally had positive attitudes toward stuttering, American teachers were significantly more positive than Arab teachers. It should be noted, as indicated by Irani et al. (2012), the small sample size (i.e. 83 Arab and 83 American) and a lower response rate for the American teachers, were limitations of the study. Furthermore, there may be a positive response bias,

due to the low response rate from both samples. These limitations need to be taken into account when interpreting the results.

There is a general consensus among the studies that increasing knowledge could serve as an important aspect in improving attitudes toward stuttering. Differences were noted with regard to what type of information teachers required. The results, therefore, highlight the importance of surveying teachers within the context in which they work, as teachers have varying degrees of knowledge about stuttering. Before interventions within the school context can be initiated, it is important to understand the attitudes of significant figures in the child's environment. The current study therefore focused on teachers' attitudes toward stuttering. According to Snyder (2001), the lack of success in reducing negative attitudes toward PWS may be related to educational material lacking effectiveness and the inability of instruments to identify change. In order to create interventions and resource materials to address issues related to stuttering and CWS, SLTs first need to gain an understanding of the attitudes and beliefs teachers hold. For the South African context, little is known about teachers' knowledge of or attitudes toward stuttering. Gaining information about teachers' attitudes could serve to inform intervention planning. Identifying gaps in teachers' knowledge could potentially assist in creating more positive attitudes.

2.7 Factors Influencing Attitudes

Some studies examined selected factors and their influence on an individual's attitude towards PWS. In this section, the literature related to the different factors will be discussed. 'As troubling as the attitudes themselves, is the fact that we have minimal data concerning the origins of negative stereotypical attitudes about stuttering' (Hulit & Wirtz, 1994, p. 248). Hulit and Wirtz (1994) highlight the importance of determining the factors which play a role in influencing attitudes either positively or negatively. Teaching factors such as quintile, teaching phase and years of teaching experience and personal factors such as culture and language, gender, familiarity and age have been explored in the literature. Key findings are discussed below. It should be noted that the following review of the literature is broad-based and therefore not all studies specifically consider teachers as their focus. In addition, it remains difficult to draw evidence-based conclusions as to the effects of these factors, as the research has provided mixed results. Understanding the impact of these demographic factors could prove invaluable in the planning and development of professional development programmes within the South African context.

Teaching factors.

Quintile.

The international studies have emphasised the importance of investigating attitudes specific to a context. As stated previously, South Africa has a specific contextual landscape characterised by diversity and inequality – as described in chapter 1. One of the key characteristics is economic inequality (Motala, 2006). The divide between rich and poor is the largest in the world as confirmed by the income inequality measure, the Gini coefficient (The World Bank, 2014). Other attitudinal studies have not considered this factor which is so relevant to the South African context. It was felt, given the income inequality in South Africa, the attitudes of teachers at schools from different quintiles would be an important variable to explore. Therefore, this study will provide novel information which would contribute to expanding the knowledge base in this area.

Teaching phase.

The literature has not revealed any published studies which have compared the attitudes of teachers in foundation phase (grades 1-3) and intermediate phase (grades 4-7). However, it is felt that due to the fact that these phases differ in their academic emphasis, this would be an important variable to investigate. This study is interested in exploring whether or not the attitudes of teachers in the foundation phase differ from teachers in the intermediate phase. This information will help to tailor further intervention programmes to suit the phase of schooling - if this factor is found to be significant in influencing teacher attitudes.

Years of experience.

Erdem (2013) conducted a study to determine Turkish language and primary school teachers' attitudes toward stuttering. Demographic factors were explored to determine the influence on attitudes. Gender, branch of teaching (i.e. language versus primary school teachers), whether they had a stuttering learner, reading books on stuttering and length of teaching service were all considered. The Stuttering Attitudes Scale, developed by the researcher, was used to gather data. There were a total of 290 participants, with 219 primary school teachers and 71 Turkish language teachers. The results of the Pearson test indicated that there was a significant negative correlation between length of service and teachers' awareness of stuttering. Therefore, with increased length of service, there is a decrease in awareness of stuttering. Erdem (2013) rationalised that during the last few years there has been an increase in training and resources and sensitivity to stuttering which may have impacted the results. Conversely, a study conducted by Crowe and Walton (1981) found no significant correlations for years of experience of

teachers sampled. The results of the studies vary on the influence which years of teaching experience has on attitudes toward stuttering.

Personal factors.

Culture and language.

According to Matsumoto and Juang (2013), human culture is 'a unique meaning and information system, shared by a group and transmitted across generations, that allows the group to meet basic needs of survival, pursue happiness and well-being and derive meaning from life' (p. 15). Societal and cultural factors influence and mould people's views on, and perceptions of, disability in general (Al-Khaledi et al., 2009). Professionals cannot assume that the attitudes of their own culture would mirror those of their client (Bebout & Arthur, 1992). Furthermore, it cannot be assumed that the assessment and management strategies or norms developed for western society would be appropriate to other societies (Bebout & Arthur, 1992; Kathard, 1998). Bebout and Arthur (1992) conducted a study to determine cross-cultural attitudes toward communication disorders, including stuttering. The results of the questionnaire indicated that cultural difference could impact therapy. For example, participants who were not born in North America were more likely to relate speech disorders with emotional disturbances. Bebout and Arthur (1992) concluded that the finding may indicate that on average, people from those cultures with speech disorders may be treated differently by their own cultural community compared to other cultural communities.

When considering disability in general, there are contrasting traditional and biomedical views (Donohue & Bornman, 2014). Traditional views are beliefs which are passed down from generation to generation, compared to the biomedical perceptive which has its roots based in science and evidence-based practice of medicine (Maloni et al., 2010). In many African cultures, disability and illness are viewed in a spiritual framework and therefore consultation with traditional healers is common (Legg & Penn, 2013). Platzky and Girson (1993) found that traditional healers believed stuttering may be caused by failure to inform the ancestors of the forthcoming birth of a child, witchcraft, or being left outside in the first rains of spring. Similarly, in a study to determine the impact of stuttering on the quality of life of 16 PWS in South Africa, Klompas and Ross (2004) found that participants believed that their culture had specific views on the cause of stuttering.

For the current study, these findings (Bebout & Arthur, 1992; Klompas & Ross, 2004; Platzky & Girson, 1993) emphasise the importance of understanding the impact of culture on attitudes. As certain cultures are closely associated with certain attitudes, it is important to determine the extent to which culture influences attitudes. Differences in attitudes and the values held by each culture can impact reactions toward PWS (Abdalla et al., 2014). If certain cultures have specific beliefs about stuttering, it is imperative that these beliefs be addressed during intervention. Furthermore, through considering the implications of culture on teachers' attitudes, it may explain potential differences in the results for groups of individuals. While the value an individual places on their own culture (i.e. ones values and beliefs) is important, the measurement of cultural influences is very challenging given its complex nature.

The interaction between race and culture in South Africa adds to the complexity of understanding cultural influences on stuttering. The study therefore did not examine cultural influences directly. Instead, it used language as a lens to obtain insights into culture. The literature reinforces the strong associations between language and culture (Jiang, 2000). Therefore, this study examined if language backgrounds of teachers were associated with their attitudes.

Gender.

A review of the literature revealed conflicting results regarding the effect of gender on attitudes toward stuttering. Early studies by Burley and Rinaldi (1986) and Patterson and Pring (1991) found no difference in attitudes regardless of the gender. Schroeder (2011) found no significant gender differences with regard to respondent attitudes. Females did, however, have more positive attitudes in general (Schroeder, 2011). More recently, St. Louis (2012a) found only small, not statistically significant, gender differences from the 50 males and females, randomly selected from the POSHA-S database archive. St. Louis (2012a) concluded gender did not significantly impact stuttering attitudes and that adult males and females did not hold important attitudinal differences. Conversely, Dietrich, Jensen, and Williams (2001) and Weisel and Spektor (1998) found that adult males held more negative, less favourable attitudes than females. As females are generally perceived to be more empathetic toward others, it is not surprising that some studies concluded that females were generally more positive.

Based on the review of the literature, there are discrepancies in the literature regarding gender with mixed findings being reported. When considering the school context in South Africa , it must be noted that females constitute the majority (71%) of all teachers in the profession (Arends, 2007). Although

the gendered nature of the profession is clear, it is important to explore the attitudes of both males and females. Potentially, if males and females hold different attitudes toward stuttering, then interventions targeting improving attitudes may consider targeting groups based on gender (St. Louis, 2012a). St. Louis (2012a) concluded that as no clear attitudinal differences were noted between males and females, and therefore if differences did exist, the effects were likely not to be clinically relevant. Even so, important attitudinal differences may exist and therefore exploring the impact of gender on attitudes is important for the current study. It should also be noted that the studies discussed have mainly considered Western cultures, and that gender attitudes may differ in other cultures (Costa Jr., Terracciano & McCrae, 2001). According to Costa Jr. et al. (2001), their study found that self-reported gender differences were more pronounced in Western cultures. When considering the social role model, it would be theorised that in more progressive countries, gender differences would be less, when in fact they were heightened.

Familiarity/Exposure to stuttering.

Literature related to familiarity and the types of relationships people have with a PWS, and how this may impact attitudes, are discussed. Allport (1954) hypothesised that with an increase in intergroup contact, prejudice could be reduced. A number of studies (Heite, 2000; Klassen, 2001, 2002; Langevin et al., 2009) have corroborated Allport's (1954) theory. According to Klassen (2001, 2002), the results of his studies provided evidence to support that extensive interaction with at least one PWS, resulted in a less negative attitude. The differences noted in attitudes between the general population and those who knew at least one PWS underpinned the view that an intimate relationship, rather than superficial contact, is more important in decreasing stereotypes in many contexts (Klassen, 2001, 2002). Similarly, when considering teachers' attitudes, Heite (2000) found that positive attitudes were correlated with the frequency with which a teacher taught a CWS and whether they received any instruction about how to accommodate stuttering in the classroom. Heite (2000) found that only familiarity with CWS in the classroom setting was associated with positive classroom management strategies, and therefore, concluded Heite (2000), that general familiarity with stuttering was not sufficient.

Other studies reported no significant findings for familiarity and attitudes toward stuttering. Swartz, Gabel, and Irani (2009) found no correlation between familiarity and SLT's attitudes toward, and beliefs about, PWS. Similarly, Doody, Kalinowski, Armson, and Stuart (1993) surveyed three close-knit rural communities to determine their attitudes toward PWS. It was concluded that negative stereotypes toward PWS still exist despite a large majority either knowing someone who stutters (85%,

n=90), or having a relative who stutters (39%). It was therefore concluded that negative stereotypes were still present regardless of personal experience with PWS or a familial relationship.

From the review of the literature, it is evident that there is little agreement in the literature. Perhaps, a general familiarity with stuttering may not be sufficient in creating more positive attitudes. It might be more important to determine the type of relationships people have with PWS. Additional research into determining the impact of how social interactions with PWS may affect attitudes in general is necessary (Hughes, Gabel, Irani, & Schlagheck, 2010). The current study therefore aims to determine if relationships with PWS affect teachers' attitudes.

Age.

Literature has documented that school-aged children (Langevin et al., 2009), students (Betz et al., 2008; Hughes et al., 2010) and adults from the general public (Özdemir et al., 2011) have exhibited negative attitudes toward stuttering. For example, Betz et al. (2008) found that university students rated a hypothetical model of a young CWS more negatively than a child who did not. Similarly, Ezrati Vinacour (2001) found that children were disapproving of dysfluent speech. The results of the study highlighted that fluent children seem to identify differences negatively by the age of five years (Ezrati Vinacour, 2001). Although it is clear that negative attitudes are persistent across age ranges, are attitudes influenced by the age of the participant?

Allard and Williams (2008) investigated the perceptions of listeners toward speech and language disorders. Audio recordings of speech samples from five different individuals were used. The study aimed to assess a range of communication disorders (i.e. articulation, fluency, voice and language) to gain an understanding of whether age, gender, exposure and residency had an impact on attitudes. Participants were students from the Florida Atlantic University (n=450). A regression analysis was conducted and no significant differences were found for any of the factors, including age. Similarly, Hulit and Wirtz (1994) conducted a study to determine knowledge about and attitudes toward stuttering. Factors such as age, gender, years of experience, education and number of PWS known were examined to determine the effect it had on attitudes. The Stuttering Inventory was administered to 203 participants of varying ages, education and professional backgrounds. Hulit and Wirtz (1994) found that for factors such as age, gender, and number of years of formal education, no significant differences were noted in responses to attitudinal items. When specifically considering teachers, Crowe and

Walton (1981) found that there were no differences for attitudinal scores and the age of the teacher. In order to further explain their results, Abdalla and St. Louis (2012) highlighted that cofounding variables, such as age, which may be able to explain difference between the two groups of teacher samples (i.e. pre-service and in-service teachers), could be further explored as it may assist in further understanding the two groups of individuals.

The results of the studies did not find any significant results for age. As age could potentially be a confounding variable (i.e. has an effect on both the dependent and independent variable, Utts & Heckard, 2012), it is important to rule out the potential effect on attitudes. When considering age, it must be borne in mind that in South Africa, younger and older teachers have had vastly different training spanning two political eras (Department of Education, 2006). Therefore, in spite of the current international literature it was felt that this factor was useful to explore.

2.8 Conclusion

It is clear from the literature that PWS are exposed to stigma. Negative attitudes toward stuttering have been well-documented in the literature. Studies considering teachers' attitudes toward stuttering have emphasised the need for an increase in knowledge related to stuttering in order to improve attitudes. The importance of context was also highlighted; therefore considering the South African context is paramount, especially when investigating variables affecting attitudes. The impact of teachers' attitudes toward stuttering shouldn't be underestimated as their attitudes can influence those of learners and can have an impact on the CWS's education environment. Further demographic factors which could influence attitudes were described. The studies generally found mixed results regarding the factors discussed. Even so, it is important to gain an understanding of each factor as within the South African context, due to the diversity of the countries individuals. Differences in culture, gender, age, years of experience, quintile, familiarly/exposure and teaching phase may provide insight into the unique context, and may serve to explain the potential differences in scores obtained. The current study, therefore, aimed to determine teachers' attitudes toward stuttering within the South African context, where little is known. In order to develop and implement intervention strategies specifically tailored to teachers' needs, the understanding of teachers' attitudes toward stuttering is essential.

Chapter 3 – Methodology

3.1 Research Aims

As previously discussed, the aims are as follows:

Primary aims.

1. To describe primary school teachers' attitudes towards stuttering in two urban education districts in the Western Cape.

2. To compare South African teachers' attitudes to the POSHA-S database archive.

Secondary aim.

1. To explore the association between selected teachers' demographic factors and attitudes towards stuttering.

3.2 Research Design

A quantitative, survey-research design was used in this study as it aids in the collection and analysis of numerical data through the use of statistics (Durrheim, 2006). Descriptive, quantitative research allows the researcher to measure attitudes the way they are, without attempting to change behaviour (Hopkins, 2000). Predetermined constructs (i.e. attitudes and reactions to stuttering) were explored using a quantitative measure (i.e. questionnaire, Durrheim & Painter, 2006). Generalisable descriptions and comparisons can be made from the data collected (Durrheim & Painter, 2006). Associations were made between different factors (e.g. personal and teaching factors); in addition, the similarities or differences between the results from the current study to the POSHA-S archive database, were determined. For this reason, this study may therefore be considered a measurement-driven study (Durrheim & Painter, 2006).

Survey design was appropriate to this study because it offered a quantitative approach to describe attitudes, opinion or trends of a given population, through gathering information from a sample of the population (Creswell, 2009). Furthermore, survey-research allowed for a large number of participants to be included in the study in order for the researcher to gain a general overview of the population (Hicks, 2009). Specifically, a cross-sectional survey was used as it is exploratory in nature and allowed the researcher to describe attitudes and/or behaviours (Mathers, Fox & Hunn, 2007) across a population at a given time (Hall, 2008). The information of interest (i.e. teachers' attitudes toward

stuttering) in the current study cannot be directly observed but are instead self-reported; a cross-sectional survey will allow the researcher to do this (Lui, 2008). Data can be collected through self-administered questionnaires (Lui, 2008), in this case the POSHA-S. Although survey research is able to indicate how many people provided a certain response, it is unable to indicate why (Lui, 2008; Mathers et al., 2007) and therefore the main aim of the study was to describe teachers' attitudes and not why these attitudes exist. Furthermore, cross-sectional surveys allow the researcher to make comparisons across subgroups and can be effective when testing the association between factors (Lui, 2008). Therefore, the current study aimed to describe teachers' attitudes toward stuttering and explore the association between selected demographic factors, based on the literature.

3.3. Participants

Participants were teachers working in primary schools in Cape Metro East and Cape Metro Central education districts in the Western Cape.

Inclusion criteria.

Individuals were eligible for inclusion in the study if they met the following criteria:

1. Teachers who were currently teaching at a primary school, as the study aimed to describe the current status of teachers' attitudes in the school system.
2. Proficiency (i.e. able to read and write) in English was necessary as the questionnaire was available in English (Hicks, 2009). In South Africa, the majority of higher education is taught in English (Ministry of Education, 2002) and therefore it was assumed that teachers would have a level of English proficiency suitable for completion of the questionnaire.
3. Awareness of stuttering was required (i.e. determined before administration of questionnaire). The questionnaire required participants to report their attitudes toward stuttering compared to other human attributes and therefore it was essential that teachers had a basic understanding of stuttering in order to adequately complete the questionnaire.

Exclusion criteria.

Individuals were ineligible for inclusion in the study if they met the following criteria:

1. Substitute teachers (i.e. teaching a class on a needs basis when the regular teacher is not available) were excluded as they may not have been familiar with school settings or may have

had more experience in schools which were not from the same quintile as the school in which they were currently working.

3.4 Sample Size

In order to gain an estimate of the potential size of the study population, the number of grade one to seven teachers working at primary schools in Cape Metro East and Cape Metro Central districts was established. There were approximately 4759 teachers in this area, forming the sample frame. In order to sample teachers across all grades (i.e. foundation and intermediate phase) and from both quintiles (i.e. higher and lower), it was important that each group be represented in the sample (refer to Figure 1.3). There are approximately 1416, 641, 1622 and 681 teachers from quadrant A, B, C, and D respectively.

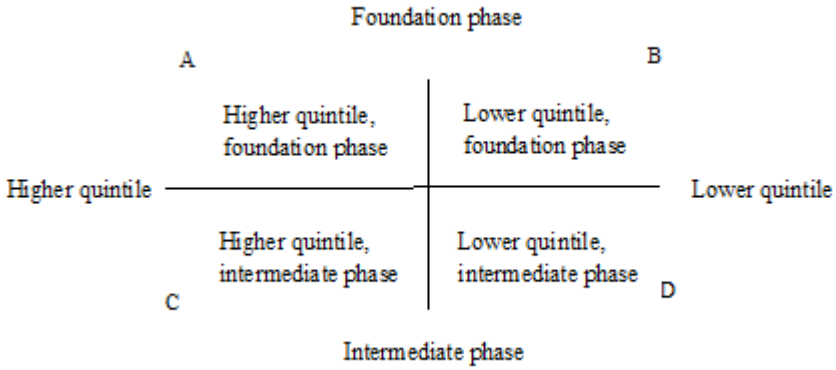

Figure 3.1. Graphic representation of groups to be sampled from quadrant A, B, C and D.

In order to determine the appropriate sample size, the proportion of people aware of stuttering, margin of error and confidence interval were determined. As no information is known about the percentage of teachers who would have an awareness of stuttering in South Africa, it was estimated that 90% of teachers would know what stuttering is, as it is a commonly occurring condition. Based on the results of the pilot study, the initial assumption of 90% was upheld as 24 of the 25 participants (i.e. 96%) were aware of stuttering. As no survey is able to produce results that are completely accurate, it was important to determine the margin of error (Mathers et al., 2007). The margin of error was set at five percent as, the smaller the margin of error, the more accurate the results of the survey. The confidence level was therefore set at 95%. It was necessary to ensure that the sample taken was representative of

the sample frame and therefore the sample was stratified before clustering (Mathers et al., 2007). According to St.

Louis (2008) samples sizes of 100 – 200 participants produce results which are closer to the mean. The sample size was then calculated and it was determined that the ideal sample size would be 483 participants, with 126, 114, 128 and 115 from quadrants A, B, C and D respectively.

In order to determine the necessary number of questionnaires to send out to participants, the potential response rate was estimated to be 90%. The high response rate chosen was due to the method of administration of the questionnaire where participants were directly addressed by the researcher and questionnaires were completed immediately afterwards. Following the results of the pilot study, the response rate for the higher and lower quintiles were separated due to the large discrepancy. For the higher quintile, the response rate remained at 90% and for the lower quintile the response rate was estimated at 60%. Consequently, the researcher aimed to distribute 601 (280 for the higher quintile and 321 for the lower quintile) questionnaires for completion.

3.5 Sampling Method

As each individual in the given population had an equal chance of being selected to participate in the study (McCormack & Hill, 1997), random probability sampling allowed the researcher to obtain a representative sample of specific locations, in this case, Cape Metro Central and Cape Metro East education districts. It was most appropriate to randomly select individual teachers, but as it was not practical, cluster sampling was utilised (Bruce, Pope, & Stanistreet, 2008). As an exhaustive list of all teachers working in the school system could not be obtained, randomly sampling teachers was difficult (Bruce et al., 2008). Clustering did not require a list of all potential participants in a population (Bruce et al., 2008). As there is a list of schools in each education district, it was more feasible to randomly select schools (Bruce et al., 2008). Therefore, schools (i.e. clusters of teachers) were selected as part of the sampling process (Bruce et al., 2008). Schools were initially stratified according to quintile and teaching phase in order to obtain a representative sample before random selection (Bruce et al., 2008). Cluster sampling was chosen as it would be cost-effective and less time consuming, however, it is acknowledged that there is an increased likelihood of a sampling error compared to random sampling (Bruce et al., 2008). This is due to the fact that individuals in the same cluster were more likely to be similar than individuals in a population (Bruce et al., 2008). It is also acknowledged that each stage of the sampling introduced errors and therefore resulted in an increase in the overall sampling error (Durrheim & Painter, 2006). Although this was a limitation of the study, it improved the feasibility/practicality of the study (Durrheim & Painter, 2006). A computer programme from the internet (i.e. randomizer.org, which uses a JavaScript random number generator to create a unique set of random numbers) was utilised to firstly, arrange the schools in a random order, and secondly, to

randomly select which schools were targeted. Schools chosen were contacted to participate in the study.

3.6 Recruitment Strategy

Recruitment of participants was facilitated with the assistance of principals in primary schools (i.e. grades 1 – 7) in both districts. Each principal was contacted telephonically and asked if their school would be willing to participate in the study. Once verbal agreement was provided, teachers were sent an information letter detailing the aims and rationale of the study and asking if they were willing to participate before setting a date for completion of the questionnaire. A time was arranged for completion of questionnaires once the teachers had a chance to consider if they were willing to participate in the study.

3.7 Tools/Equipment

POSHA-S questionnaire.

The IPATHA initiative developed the POSHA-S, a survey tool used in measuring public attitudes towards stuttering worldwide (St. Louis, 2011). It is a self-completion questionnaire, and paper-and-pencil administration was utilised. The POSHA-S was developed to be cost effective so that researchers would be able to conduct their study without substantial external funding (St. Louis, 2005). It was also developed to be translatable into a variety of languages and cultures; efficient; valid; reliable; and easy to use (St. Louis, 2005). South Africa also participated in development of POSHA-S (St. Louis, 2005). The POSHA-E was able to identify slight differences with sample groups such as distinctions between rural versus urban, student versus nonstudent and low/middle income versus high income nations (St. Louis, 2005).

Research has been conducted to determine the validity and reliability of the POSHA-S. Results have indicated that the instrument has satisfactory test-retest reliability, with a correlation coefficient of 0.8 (St. Louis, Lubker, Yaruss, & Aliveto, 2009) and satisfactory internal consistency, with Cronbach alpha coefficient of between 0.79 – 0.90 for various scales within the POSHA-S (Al-Khaledi et al., 2009). Evidence of construct and concurrent validity has been reported, as it was able to identify positive changes in attitudes after intervention, with similar results found when compared to the results of the Bipolar Adjective Scale (St. Louis et al., 2009). Results were comparable across a variety of populations (e.g. Abdalla and St. Louis, 2012; Ip et al., 2012).

The POSHA-S consists of (1) an instruction page; (2) a demographic section which requires participants to indicate their age, gender, residence and citizenship, marital status, if they are a parent, level of education, vocational status, languages spoken, relative income to family/friends and the rest of the country, and their self-appraisals of aspects of their life and their priorities; (3) a general section considered participants' overall impressions, desire to be/have, amount known about and how they know people who possess the five human attributes; (4) a stuttering section which considers characteristics and potential of PWS, concerns about certain people stuttering, feelings/reactions to stuttering, beliefs about the causes of stuttering, opinions on who should help a PWS, and their sources of knowledge on stuttering. It should be noted that the POSHA-S is not structured in such a way that the questions are grouped together to directly relate to a component, subscore and overall stuttering score. Items from different questions throughout the POSHA-S are used to make up the different components. Refer to Appendix B for questionnaire.

For the current study, modifications were made to the POSHA-S in order to enhance the content validity of the study to better suit the South African context (See Appendix C for more details). The POSHA-S allowed for the addition of items, provided that the items were in accordance with the objective tone of the questionnaire (St. Louis & Roberts, 2010). Questions related to teachers' views on management of stuttering in the classroom were included and were adapted from Crowe and Walton (1981), Yeakle and Cooper (1986) and Heite (2000). Kenneth St Louis, the developer of the POSHA-S, approved the validity of the proposed questions and formatting changes (refer to Appendix C for summary of additional questions and modifications). It should be noted that the additional questions were analysed separately from the POSHA-S in order to maintain the integrity of the tool. The reliability and validity of the POSHA-S, with the additions, were reviewed during the pilot study (Refer to the *Pilot study* section for further details). It was estimated that each questionnaire should be completed within approximately ten minutes (Özdemir et al., 2011).

3.8 Procedure

Ethics approval for the study was obtained from the Health Sciences Human Research Ethics Committee (see Appendix D). Following which, approval was obtained from the Department of Education (see Appendix E).

Pilot phase.

Pilot studies can be utilised to assess the feasibility of processes which are vital to the success of the main study (Thabane et al., 2010). According to van Teijlingen, Rennie, Hundley, and Graham (2000), pilot studies can be used to determine the potential response rate, whether the research procedure is realistic, training of research assistants and assessing whether they understand the research procedure, and to determine the adequacy of the research tool. The purpose of the pilot study was therefore three-fold: (1) to train research assistants; (2) to determine if the research procedure was adequate; and (3) to determine if the questionnaire modifications and wording were appropriate for the context in order to contribute to the further development of the questionnaire for this population. According to Thabane et al. (2010), in general, it may not be necessary to use calculations to determine the sample size for a pilot study. It is important to ensure that the sample is representative of the target population (Thabane et al., 2010). As a general rule, the sample for the pilot study should be large enough in order to supply constructive feedback about the feasibility of the aspects being assessed (Thabane et al., 2010).

As the sample was categorised into quintiles, it was important to get a representative sample from both higher and lower quintile schools. Subsequently, the pilot study aimed to obtain a sample of 20 participants, ten from each quintile. Two schools (excluding those in the main study), were contacted and principals were asked if their school would be willing to participate. Verbal consent was obtained and a date, time and place within the schools were confirmed. Teachers were asked if they would be willing to complete the questionnaire. Following the completion, they were asked to provide the researcher with feedback about the questionnaire and how it could be improved. Teachers who took part in the pilot study were not eligible for inclusion in the main study.

There were a total of 25 teachers recruited, with a completion rate of 60% (n=15). When specifically considering each school, a higher completion rate was noted for the higher quintile (i.e. 100%) as opposed to the lower quintile (i.e. 33.4%). Teachers in the lower quintile school indicated the following reasons for not wishing to complete the questionnaire: (1) stuttering was not a problem in their school; (2) soon to retire; (3) tired; (5) too hot outside; and (5) wanting to leave the education sector. It is important to note however, that none of these reasons related specifically to the nature of the study or the content of the questionnaire. Teachers' apparent disinterest may have stemmed from larger systemic issues such as poor school governance; lack of resources and infrastructure which may have, over time, eroded their interest in the profession. Based on the result, the higher quintile response rate remained at 90% and the lower quintile response rate was reduced to 60%.

As no information was available about the level of awareness of teachers in South Africa with regard to stuttering, it was important to use the pilot of the questionnaire in order to determine whether the estimate of 90% level of awareness was appropriate. Of all of the teachers addressed, only one did not know the concept of stuttering (i.e. 96%) and as a result, the assumed level of awareness of stuttering remained at 90%.

Based on the results of the pilot study, the following procedural changes were made to the research process:

1. Calling the school beforehand as a reminder of their scheduled meeting
2. Handing out documents individually, followed by short discussion about contents.
3. Highlighting the importance of understanding all teachers' attitudes irrespective of whether they have a CWS in their classroom
4. Remembering to take writing materials to each meeting (i.e. pens)
5. Ensuring that participants knew that the questionnaire was double-sided
6. Being flexible in order to meet the needs of the school (i.e. presenting questionnaire in small groups, rather than as one group etc.).

Data collection procedure.

Potential participants were identified through conversations with the principals of the selected schools. After receiving verbal consent from the principal, information letters (See Appendix F) were distributed to the school for all potential participants. Suitable dates, times, and locations were discussed with the principal.

Research assistants were trained so that they were able to answer any questions and were briefed about the importance of each participant completing the questionnaire individually. The questionnaires were administered in a group setting. Participants were given an introduction to the study. Following this, all teachers were asked, prior to administration of the questionnaire, if they were willing to participate. Verbal consent was first obtained in order to increase the efficiency of the data collection process. If teachers were not interested in participating in the study, they were allowed to leave. Of those willing to participate, awareness of stuttering was determined. Written consent was then obtained (See Appendix G for informed consent form). The participants were asked to complete the questionnaire individually.

3.9 Data analysis

Data capture and management.

All the questionnaires were eligible for inclusion in the study as the developer of the POSHA-S, Kenneth St. Louis, indicated that even if the questionnaire was not fully completed, it had minimal impact on the results (K.O. St. Louis, personal communication, July 6, 2014).

The raw data was captured on a Microsoft Excel spreadsheet provided by the developer of the POSHA-S. The raw data collected from the questionnaires were converted into numerical data as follows: (a) general section responses were captured using a rating scale from 1-5 (St. Louis, 2012c) with *u* for unsure; (b) for the stuttering section (St. Louis, 2012c) responses were converted into a rating format where *no* = 1 *not sure* = 2 and *yes* = 3. For the rating scale of 1-5, the neutral response (i.e. 3) and the unsure response were grouped together. Double-entry system was used to check for accuracy of data capturing (Jacobsen, 2012). The researcher captured the data and the research assistant double checked the records to compare for level of agreement (Jacobsen, 2012). All discrepancies were reviewed by double checking the response on the questionnaire, and correcting the record where necessary.

Data analysis for primary aims.

Scoring.

The scoring followed the standard procedure as recommended by St. Louis (2012c). The POSHA-S was scored by averaging the mean scores. The mean of test items formed the component score. The mean score for certain components formed the three subscores, namely, Obesity and Mental Illness, and two for stuttering (i.e. Beliefs about Stuttering and Self-Reactions to Stuttering, St. Louis, 2012c). The mean of the two stuttering subscores formed the Overall Stuttering Score. Table 3.1 details the structure of how each item is grouped. Items are written in normal text, components are italicised, subscores are bolded and the Overall Stuttering Score is written in capital letters. Consider the following example from Table 3.1: the mean of the following items, *people who stutter* (a) *are to blame for their stuttering*; (b) *are nervous and excitable* and; (c) *are shy and fearful*, are combined to form the component score Traits/Personality (St. Louis, 2012c). It should be noted that the Obesity and Mental Illness subscore is not discussed at length in the results and discussion as it does not directly relate to the main aim of the study.

Table 3.1

Summary of scoring system for POSHA-S detailing the make-up of items, components, subscores and overall score.

OVERALL STUTTERING SCORE
Beliefs about PWS
Traits/Personality
Have themselves to blame [a]
Nervous or excitable [a]
Shy or fearful [a]
Stuttering should be helped by…
SLT
Other PWS
Medical doctor [a]
Cause of stuttering
Genetic inheritance
Ghosts, demons, or spirits [a]
Frightening event [a]
Act of God [a]
Learning or habit [a]
Virus or disease [a]
Potential
Can make friends
Can lead normal lives
Can do any job they want
Should have jobs requiring good judgment
Self-Reactions to PWS
Accommodating/Helping
Try to act like the person was talking normally
Person like me
Fill in the person's words [a]
Tell the person to 'slow down' or 'relax' [a]
Make a joke about stuttering [a]
Should try to hide stuttering [a]
Social distance/Sympathy
Feel comfortable or relaxed
Feel pity [a]
Feel impatient [a]
Concern about my doctor [a]
Concern about my neighbour [a]

Table 3.1. *Summary of scoring system for POSHA-S detailing the make-up of items, components, subscores and overall score* (continued).

Self-Reactions to PWS
Social distance/Sympathy continued
Concern about my brother/sister [a]
Concern about me [a]
Overall impression of someone who stutters
Want to have stuttering
Knowledge/Experience
Amount known about stuttering
PWS known (composite score)
Personal experience (me, my family, friends)
Knowledge source
Television, radio, films
Magazines, newspapers, books
Internet
School
Doctors, nurses, other specialists
Obesity/Mental Illness
Overall impression
Obese
Mentally ill
Want to be
Obese
Mentally ill
Amount known about
Obese
Mentally ill

Note. Overall score is capitalised, subscores are bolded, component scores are italicised and items are in normal font.
[a] denotes all negatively worded questions.

For aim 1 and 2, which required a description of participants' attitudes and comparison of findings to the POSHA-S database archive, the mean score for all components, subscores and the overall score were calculated for the whole sample. All of the rating scores were then converted using a scale from -100 to +100 with neutral = 0 (St. Louis, 2012c). For the rating scale of 1-3, 1 = -100, 2 = 0 and 3 = +100 and for the 1-5 scale, 1 = -100, 2 = -50, 3/unsure = 0, 4 = +50 and 5 = +100. Depending on the wording of the questions, the sign (i.e. + or -) was reversed so that the lower the overall score, the less

favourable the attitude and the higher the overall score, the more favourable the attitude (St. Louis, 2012c, refer to Table 3.1 for list of all negatively worded questions, denoted with an [a]).

Data analysis for primary aim 1: Descriptive analysis of teachers' attitudes.

In order to achieve aim 1, descriptive statistics were used to describe the key characteristics of the population (Jacobsen, 2012). The distribution of the sample was determined using frequency tables. Percentages and bar charts were used to give an overview of the responses of the participants for each section in order to describe the views of all primary school teachers sampled. The mean was used when describing the results, in order to maintain a level of uniformity between the current study and the previous studies which utilised the POSHA-S. The mean, variance and standard deviation of scores were determined as they form the basis for inferential statistics (Durrheim, 2006).

Data analysis for primary aim 2: Comparison to the POSHA-S database archive.

The data from this study were then compared to the average calculated from all of the archived data from the POSHA-S database (St. Louis, 2012c), in order to determine similarities and differences between responses obtained in the current study and previous study samples (St. Louis, 2011). In addition, percentile ranks of the mean scores for the items, components, subscores and Overall Stuttering Score were compared to samples in the database archive. The quartile in which the results fell in were also determined (i.e. first quartile [0-25 percentile]; interquartile [25-75 percentile] and fourth quartile [75-100 percentile]), in order to determine whether South African teachers' attitudes were more or less positive than the other respondents in the database (Özdemir et al., 2011). In order to display this comparison, a radial graph was used. The graph shows the mean ratings for the components and subscores from all of the samples in the POSHA-S database archive (Przepiorka et al., 2013). In addition, the graph plots the lowest and the highest mean ratings obtained to date so that the current sample can be compared to the extreme and the median results (Przepiorka et al., 2013).

Data analysis for secondary aim.

The POSHA-S questionnaire was intended for group comparisons (K.O. St. Louis, personal communication, July 6, 2014) and therefore previous studies using the POSHA-S have analysed the group of participants as a whole. As a result, the analysis process did not allow the comparison of results for individuals. Subsequently, some of the scoring and analysis for the secondary aim had to be altered in order to perform the analysis for each participant's score.

Scoring.

The POSHA-S uses the mean score of the all the participants to determine the components, subscores and overall score (St. Louis, 2012c). As the data is ordinal, the mode is a more appropriate measure of central tendency (Boone, 2012). Where the mode could not be calculated, the median was used (Boone, 2012). The mode of all of the items was used to determine the components. Components are grouped together to form the subscores. The mode of all of the items in each component was used to calculate the mode score for each subscore. For example, for the Beliefs about Stuttering subscore, the mode score for items that make up the components Traits, Potential, Help and Cause was used. The composite score for person's known section was not included as it could not be converted to a scale similar to the rest of the questions.

The 1-3 scale was converted into a 1-5 scale for ease of comparison, where 1 = 1, 2/unsure = 3 and 3 = 5 as indicated by the statistician (personal communication, K. Mauff, July 2, 2014). As with the original POSHA-S scoring, for the 1-5 scale, the neutral (i.e. 3) and the unsure responses were grouped together. All negatively worded questions were reversed scored so that higher scores reflect more favourable attitudes (Ip et al., 2012). Refer to Table 3.2 for a detailed account of the different analyses conducted.

Table 3.2

Summary of differences in data analysis for the primary aims and the secondary aim

	POSHA-S scoring	Current study scoring
	Primary aims (i.e. 1, 2)	Secondary aim
Components, subscores, overall score	Mean of all participants	Mode score for individual participants
Putting all information onto the same scale	Converted to scale -100 to +100	1-3 scale converted to 1-5 scale
Negatively worded questions	Reverse score sign (-, +)	Reversed scored

Decisions had to be made regarding the grouping of items (i.e. whether to use the grouping of the POSHA-S e.g. component, subscores etc. or to create new groupings for the current study). Factorial analysis could have been used to determine how to group items on the POSHA-S, but it was not appropriate, as ordinal data does not have the same properties as continuous data (Forero, Maydeu-Olivares, & Gallardo-Pujol, 2009). Polychoric factor analysis would have been more appropriate but it required a larger sample size than the one used in the current study (K. Mauff, personal communication, August, 5, 2014). It was therefore decided that the findings would be interpreted using

the groupings (i.e. components, subscores and overall score) from the POSHA-S. This would also maintain a level of uniformity between the current study and previous POSHA-S studies.

Data analysis for secondary aim.

Inferential statistics were conducted to determine the nature of the association between the selected demographic factors and the POSHA-S scores (i.e. components, subscores and overall score). The components, subscores and overall score were compared to the following personal factors: age; gender; first language (i.e. English, Afrikaans, isiXhosa, Other); Exposure/familiarity to stuttering (i.e. Do you know someone who stutters? Is there currently someone in your class that stutters); and 'do you stutter?' and the following teaching factors: quintile (i.e. higher or lower); teaching phase (i.e. foundation or intermediate); and years of teaching experience. For the question related to knowledge about stuttering, the questions 'do you know someone who stutters?' and 'is there currently someone in your classroom that stutters?' were grouped together as both questions provided similar information (L. Thabane, personal communication, June 2, 2014).

The information was transferred to SPSS for all interferential statistics calculations. For all of the categorical data, Chi-square (Pagano, 2000) or Fisher's exact (i.e. if one category had less than 5 respondents) was utilised (Katz, 2006) in order to determine if a significant association existed between the demographic factor and the score. For all Fisher's exact calculations Statistica was used as SPSS is unable to calculate (K. Mauff, personal communication, 27 August, 2014). As chi-square is only able to indicate if a significant association exists, and not meaningfulness or nature of the association; further analysis had to be conducted (Walker, 1999). Percentage distributions and graphs were drawn up to consider the distribution of responses for each significant association found. Based on the analysis, conclusions were drawn.

For all of the continuous data, histograms indicated that all data were not normally distributed and therefore non-parametric tests were used. For the nominal data with only two values, the Mann-Whitney U test was used (McDonald, 2014) and for those with more than two values, the Kruskal-Wallis one-way ANOVA was utilized (Katz, 2006) to determine if there was a significant difference between the age and years of experience and the scores. As Kruskal-Wallis test compares multiple means, it requires post-hoc pairwise comparisons in order to interpret the significant difference found (Elliott & Hynan, 2011).

All of the information is presented in tables, which highlight the POSHA-S component, subscore or overall score, the statistical test used, interpretation and conclusion. A p-value of .05 was used to

determine the level of significance with a confidence level of 95% (Tredoux & Smith, 2006). It should be noted that any p values less than .000 are written as $p < .001$.

3.10 Ethics

Ethical considerations were taken into account as the dignity and the wellbeing of the participants are of greater significance than the research (Durrheim & Painter, 2006). The following ethical principles were considered and incorporated into the study (World Medical Association Declaration of Helsinki, 2013):

Autonomy and respect for the dignity of research participants.

Participants were not forced to take part in the research. Individuals were invited to take part in the study and their participation was on a voluntary basis. Each participant was provided with an information letter describing the nature of the study and what was expected of them. They were respected as human beings who were able to make their own decisions. Participants were informed that they have the right to withdraw from the study at any point in time, without any explanation or repercussions. No identifying information was collected about the participants, therefore maintaining confidentiality. General information about date of birth, citizenship, academics and career was required for completion of the POSHA-S. Participants were informed that they would not be identified in any way in any publications originating from the study.

Beneficence and non-maleficence.

The research did not directly benefit the participants; however, their participation assisted in deepening understanding of teachers' attitudes toward stuttering to inform intervention planning for potential professional development programmes. Based on the results of the study, relevant information about stuttering and the management of stuttering in the classroom was provided to the schools.

It was not foreseen that any participants would be exposed to direct or indirect harm due to the fact that they provided opinions about different human attributes. Each participant was informed of the research process and no deception was used.

Justice.

All participants were treated fairly and equitably. All of the participants had an equal chance of participation in the study as the clusters were randomised. The researcher guaranteed that all results

will be reported accurately in the final document. A copy of the final report will be made available to the participants, if they wished.

Chapter 4 – Results

The results will be presented according to the aims of the study. For aim 1, a descriptive analysis of the results for this survey will be presented in relation to the two stuttering subscores, Beliefs about Stuttering and Self-Reactions to Stuttering. In addition, results pertaining to the use of classroom management strategies and participants' impressions of stuttering compared to other human attributes are described. For aim 2, the data from this study will then be compared to the data from the POSHA-S database archive. Following this, for the secondary aim, the results for exploration of selected demographic factors and the components, subscores and overall score of the POSHA-S will be presented.

4.1 Participant Demographics

Table 4.1 summarises the demographic information for all participants' in the sample. There were a total of 469 participants, with a mean age of 45 years with a range of 22 – 66.6 years. There were more female participants in the sample (75.1%) than males (20.8%).

Table 4.1

Demographic information for participants

Demographic characteristic	
Number of participants in sample	469
Mean age	45
Gender N (%)	
Male	98 (20.8)
Female	352 (75.1)
No response	19 (4.1)
Quintile N (%)	
Higher	264 (56.3)
Lower	205 (43.7)
Teaching phase N (%)	
Foundation	218 (46.5)
Intermediate	251 (53.5)
First language N (%)	
Afrikaans	113 (24.1)
English	128 (27.3)
IsiXhosa	181 (38.6)
Other	47 (10)
Multilingual N (%)	
2nd language	261 (55.6)
3rd language	187 (39.9)

Table 4.1. *Demographic information for participants* (continued)

Mean education (years) [primary, secondary and tertiary education]	15.6
Mean years of teaching experience	18.7
Mean number of learners in class	39.3

Many participants indicated they had a four-year degree (56.9%), while others indicated they had a two- or three-year diploma (as can be seen by the mean years of education i.e. 15.6 years). The majority of participants were multilingual – with 55.6% bilingual and 39.9% trilingual.

Differences between higher- and lower-quintile teachers, with regard to demographic details, are presented in Appendix H.

4.2 Response Rate

As indicated by the school principals, there were approximately 856 potential participants across both quintiles. Of the 42 schools, 560 participants were invited to participate. Five hundred and twenty participants agreed to complete the questionnaire. Fifty-two participants were excluded as per the stipulated exclusion criteria. There were a total of 469 participants included in the study, with a response rate of 83.8%. A higher response rate was noted for the higher quintile (88%) compared to the lower quintile (78.8%) schools. Refer to Figure 4.1 for more details.

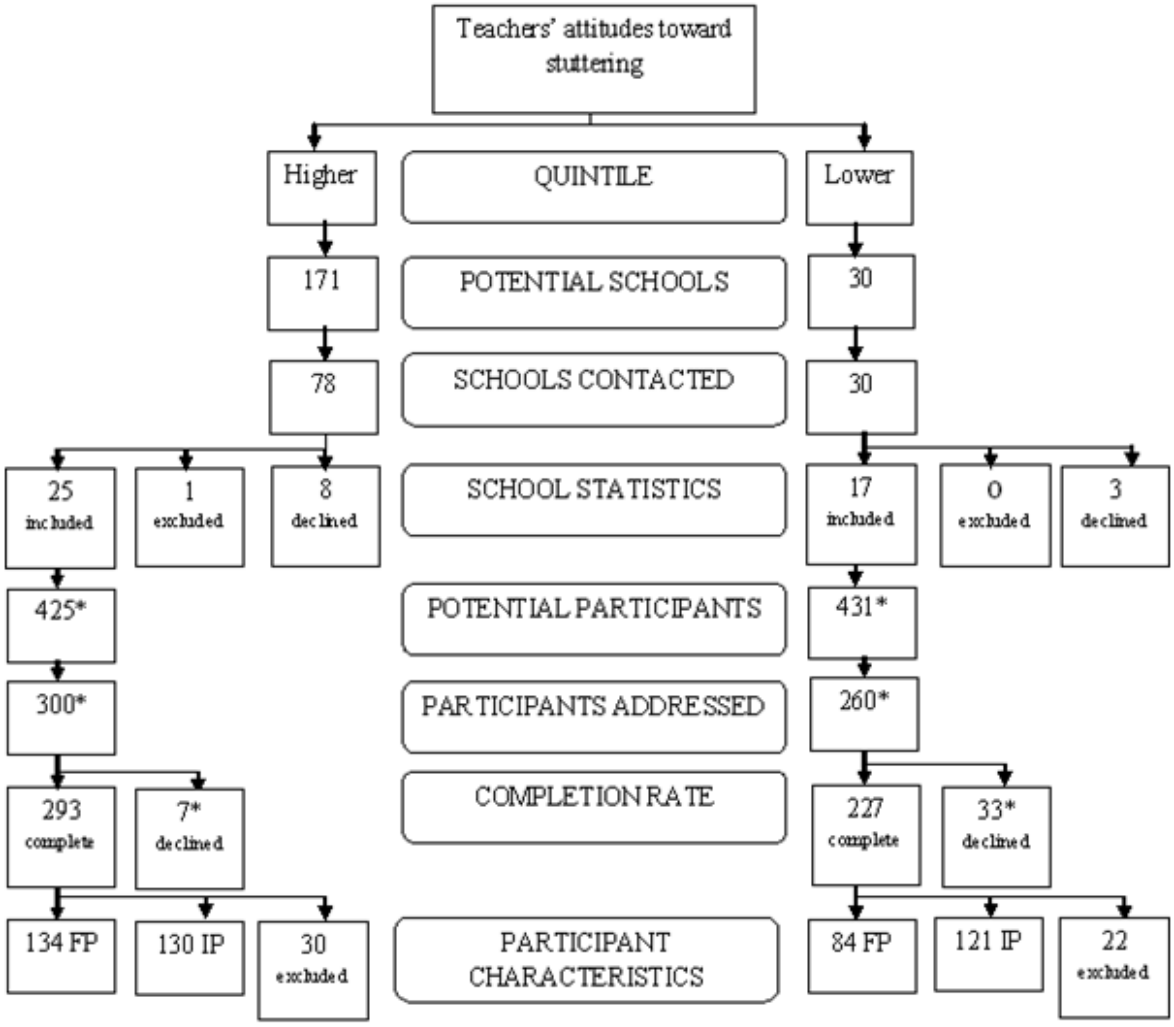

Figure 4.1. Flow chart depicting sampling process, with number of respondents per stage. The flow chart indicates the potential number of schools that could have taken part in the study; schools contacted; the schools included, declined and excluded; the potential amount of participants per school; the number of participants asked to participate; the completion rate; and the number of participants from each teaching phase and those excluded. FP = foundation phase teachers; IP = intermediate phase teachers; * = approximate amounts

4.3 Aim 1 – Description of Participants' Attitudes Using POSHA-S

In this section, the results for aim 1 relating to participants' beliefs about stuttering, self-reactions to stuttering, and their comparison of stuttering to other human attributes such as intelligence, left-handedness, mental illness and obesity are presented.

Beliefs about stuttering.

Potential.

In general, participants had positive opinions about PWS, as the majority of respondents indicated that PWS *can make friends* (94.4%, n=422)*, can lead normal lives* (96.2%, n=433)*,* and *can do any job they want* (86.7%, n=390). Fewer participants indicated that *PWS should have jobs where they have to correctly understand and decide important things* (62.5%, n=267).

Traits/Personality.

In spite of this general positive opinion, personality stereotypes were still evident. Refer to Figure 4.2 for visual representation of results. Over 50% of participants indicated that PWS were *nervous or excitable* (56%, n=248) or *shy or fearful* (58.2%, n=256).

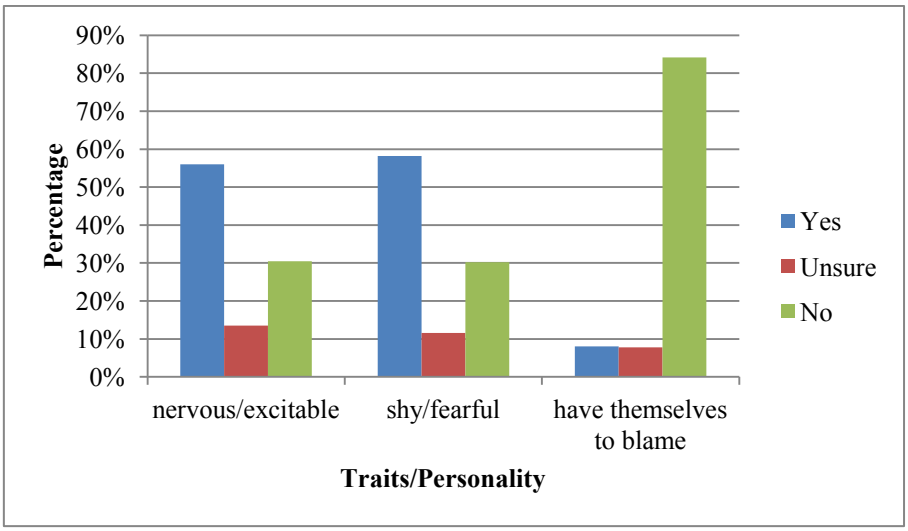

Figure 4.2. Distribution of results for the Traits/Personality component

However, it is encouraging to note that over 80% of participants did not agree with the statement that PWS *have themselves to blame for their stutter* (84.1%, n=376).

Cause of stuttering.

Participants' beliefs about the cause of stuttering were diverse. While majority of participants (53.4%, n=230) indicated that stuttering was caused by *genetic inheritance*, others believed that it was caused by an *act of God* (36.3%, n=153), *learning or habits* (26.7%, n=113) or a *very frightening event*

(24.2%, n=103). Also evident from Figure 4.3, participants generally did not believe stuttering was caused by *ghosts, demons or spirits* (90.3%, n=383), *witchcraft or ancestors* (90.6%, n=385), or *virus or disease* (76.1%, n=324).

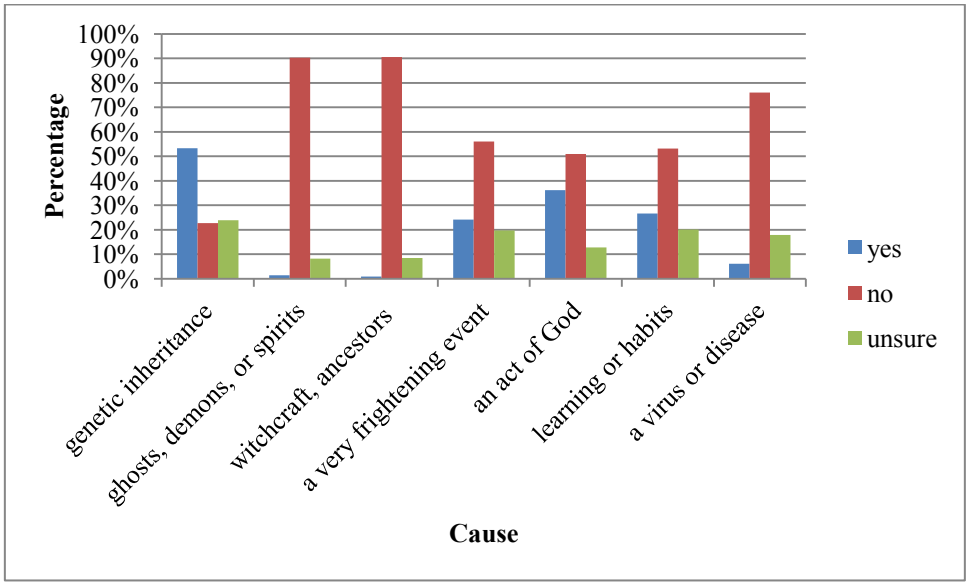

Figure 4.3. Distribution of responses for cause of stuttering

In order to get a more nuanced understanding of participants' beliefs about the cause of stuttering, it is also important to consider the *no* and *unsure* responses. For example, there were substantial number of participants (46.6%, n=201) who chose unsure or no in response to *genetic inheritance* as a cause. A similar trend is evident for *learning or habits* as a cause, with 310 participants (73.3%) who were unsure or do not agree with this explanation of the cause of stuttering.

Referral source.

Participants generally believed that a *speech-language therapist* should assist PWS (94.1%, n=416). Other participants were divided on their views with 38.7% (n=163) indicated that *people like themselves* should assist PWS while 43.5% (n=183) disagreed. Over 50% of participants indicated that PWS should not be helped by a *medical doctor* or *other PWS,* with 93.8% (n=390) indicating that *traditional healer* would not be an appropriate referral.

Self-reactions toward stuttering.

Figure 4.4 presents the participants' self-reactions to stuttering. The majority of participants indicated that they would do the following: *try to act like the person was talking normally* (81.5%, n=347); *feel comfortable and relaxed* (79.5%, n=348); and *speak calmly and slowly to the person* (67.4%, n=295).

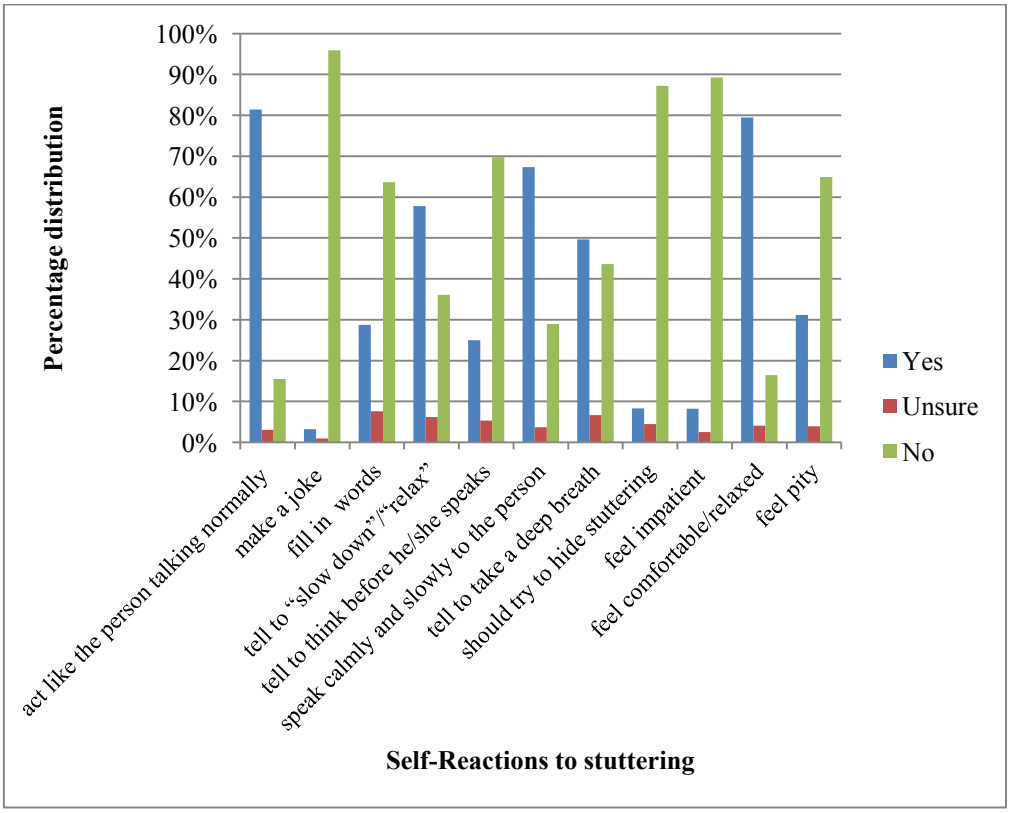

Figure 4.4. Distribution of results for the subscore Self-Reactions to Stuttering

When considering the *no* responses, participants would not: *make a joke about stuttering* (95.9%, n=418), *fill in the person's words* (63.7%, n=275), *feel impatient* (89.2%, n=389) or *pity* (64.9%, n=281), or *tell the person to think before he/she speaks* (69.8%, n=302).

As indicated by Figure 4.4, the responses were more evenly distributed for the statements: *I would tell the person to take a deep breath* and *tell the person to 'slow down' or 'relax'.*

Figure 4.5 details the percentage distribution of responses for the question related to whether they would be concerned if the following people stuttered.

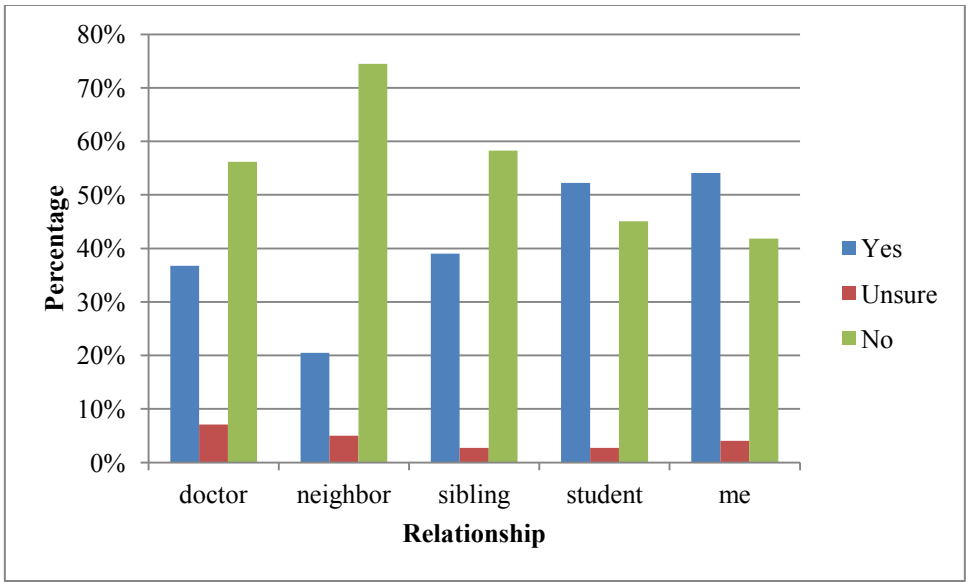

Figure 4.5. Response percentage distribution for question: I would be concerned if... stuttered.

From the figure, it is clear that participants would generally not be concerned if a *neighbour* (74.5%, n=327), *sibling* (58.3%, n=257) or if their *doctor* (56.2%, n=246) stuttered. The majority of participants indicated that they would be concerned if *they* stuttered (54.1%, n=239) or if their *student* (52.3%, n=232) stuttered.

Familiarity with stuttering.

Many participants indicated that they personally *knew someone who stutters* (83.7%, n=379), with 25.6% (n=116) who currently had *someone in their class who stutters*. Twenty-one (4.7%) participants indicated that *they stuttered*.

Figure 4.6 depicting the ranked mean scores for the amount of knowledge that the participants possessed about each of the human attributes included in this study.

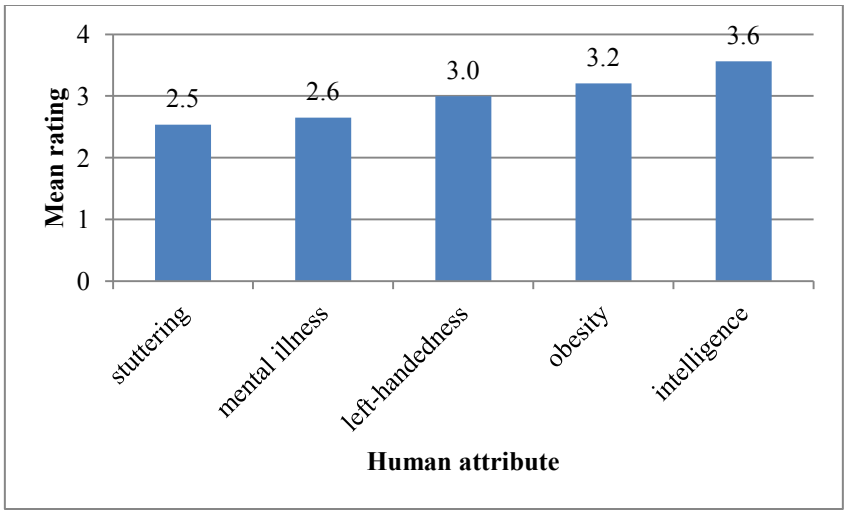

Figure 4.6. Ranked mean scores for amount known about each human attribute.

It is clear that the majority of participants had experience with stuttering, but as indicated in Figure 4.6, participants' indicated that they knew the least about *stuttering* and *mental illness* in comparison to the other human attributes.

In general, their knowledge about stuttering came from *personal experience* (71.7%, n=309) and *school context* (61.1%, n=257) as represented in Figure 4.7.

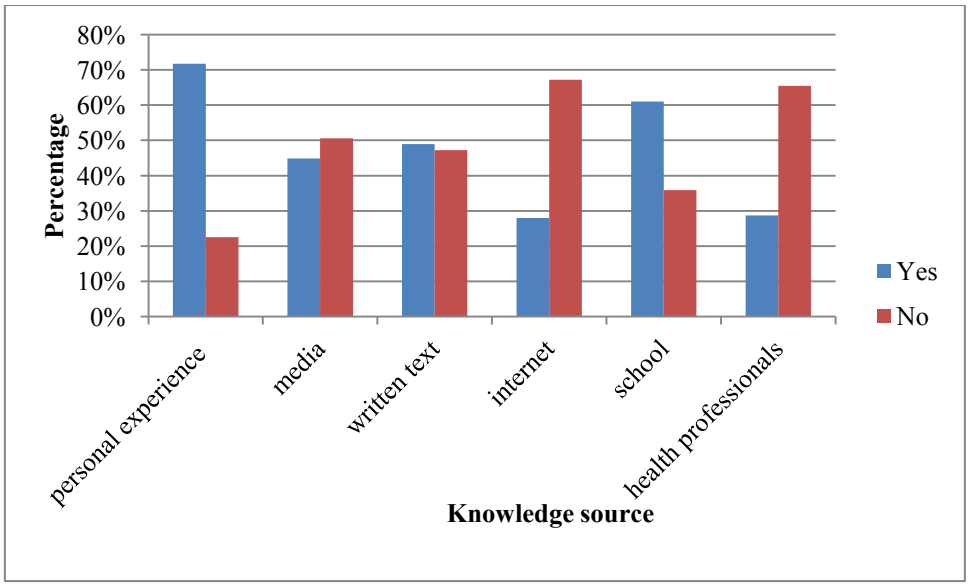

Figure 4.7. Percentage distribution of participants' source of knowledge

Classroom management.

Figure 4.8 indicates that majority of participants would *know how to react* (71.9%, n=302) to a CWS in their class. Many participants would *praise the student when he/she spoke well* (84.4%, n=367) or *performed well in class* (94.3%, n=411).

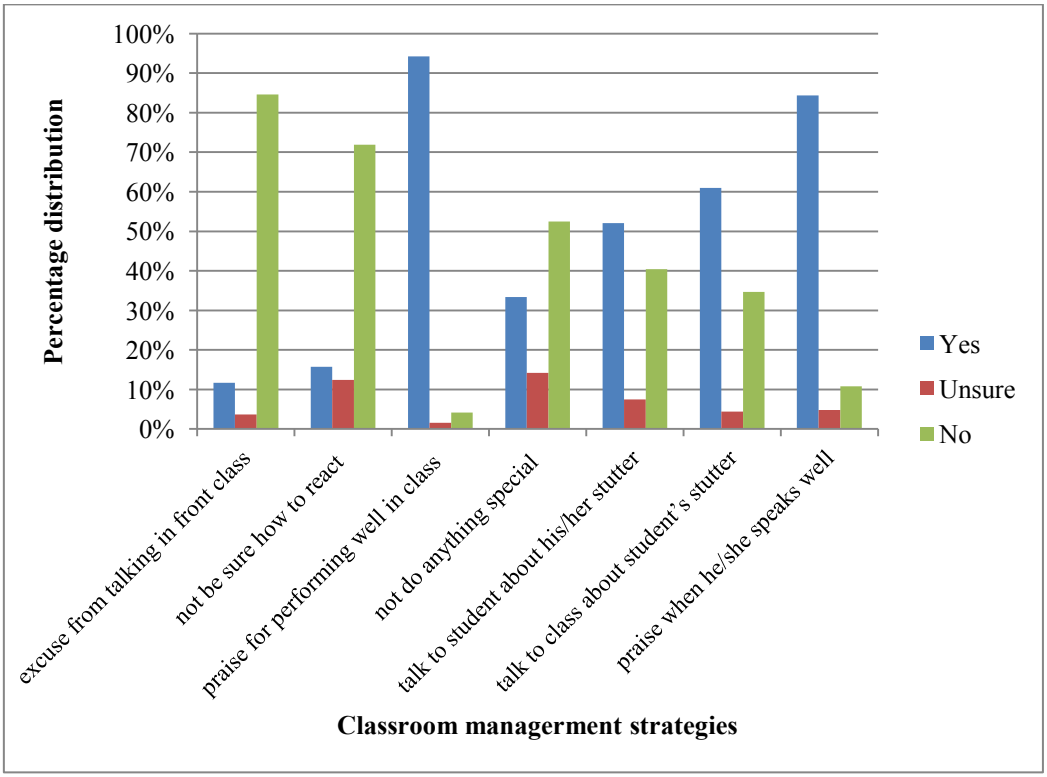

Figure 4.8. Distribution of results for participants' classroom management of stuttering

Responses were more evenly distributed for the statements, *talk to the student about his/her stutter, talk to the class about the student's stutter* and *do anything special*. Over 80% of participants indicated that they would not *excuse a child from talking in front of the class* (n=369).

Impressions of stuttering compared to other human attributes.

Figure 4.9 represents the rank ordering of the mean scores for participants' overall impression of each of the human attributes, from least to most positive. As highlighted in the Figure 4.9, participants had the least positive impression of *obesity*, followed by *mental illness*, *stuttering* and *left-handedness*. However, the mean scores were all above 3, indicating participants generally did not have a negative overall impression of any of the attributes. Participants' attitudes toward *stuttering* (M=3.62, n=447), *mental illness* (M=3.47, n=449), *obesity* (M=3.04, n=452) and *left-handedness* (M=3.96, n=450) were

viewed more neutrally, with scores closer to 3, with *intelligence* (M=4.54, n=448) viewed most positively.

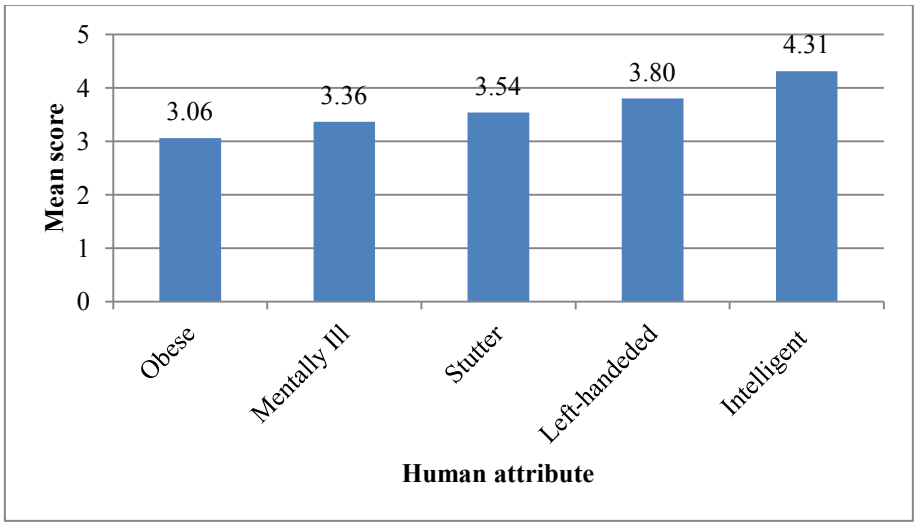

Figure 4.9. Mean score for participants' overall impression of each human attribute. Numbers above each bar indicates the mean score for each human attribute.

Figure 4.10 compares the mean scores for participants' overall impression and their desire to possess each attribute. Although participants indicated a neutral to positive overall impression for all of the attributes, participants would only want to be *intelligent* (M=4.27, n=438).

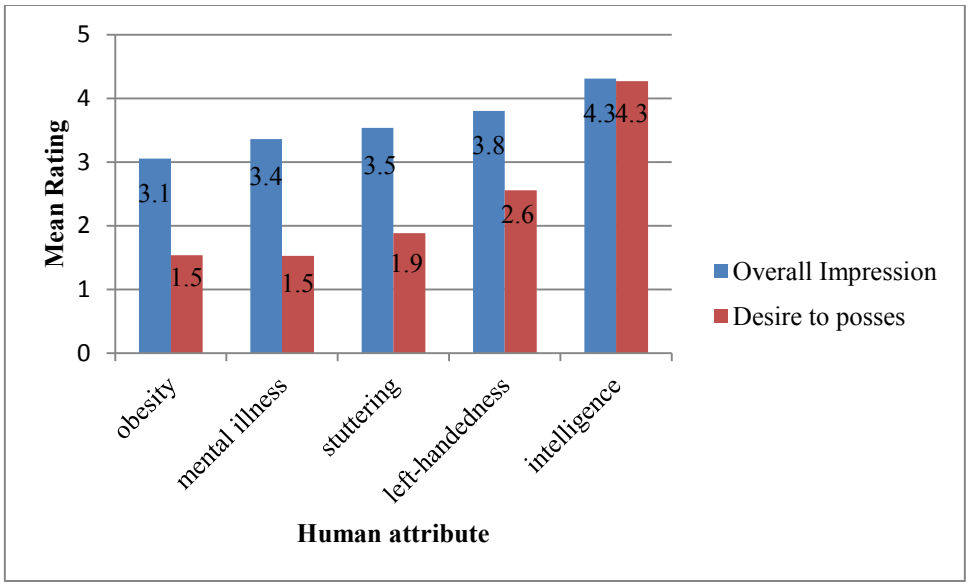

Figure 4.10. Mean score comparison for participants' overall impression versus desire to possess each human attribute. Numbers above each bar indicates the mean score for each human attribute.

When specifically considering stuttering, it is clear that the majority of participants would not want to stutter (M=1.9, n=423). When comparing *stuttering* to the other human attributes, participants seem to view stuttering similarly to *obesity* (M=1.5, n=440) and *mental illness* (M=1.5, n=427) with the mean scores for the overall impression and desire to possess each characteristic providing similar results.

4.4 Aim 2 – Comparing Current Data to the POSHA-S Database Archive

The data from the current study are compared with the lowest, highest and median samples from the POSHA-S database to date (circa August 2014). Figure 4.11 is a visual representation of how the responses of the South African sample compares to the database in terms of the components, subscores and overall score on the POSHA-S.

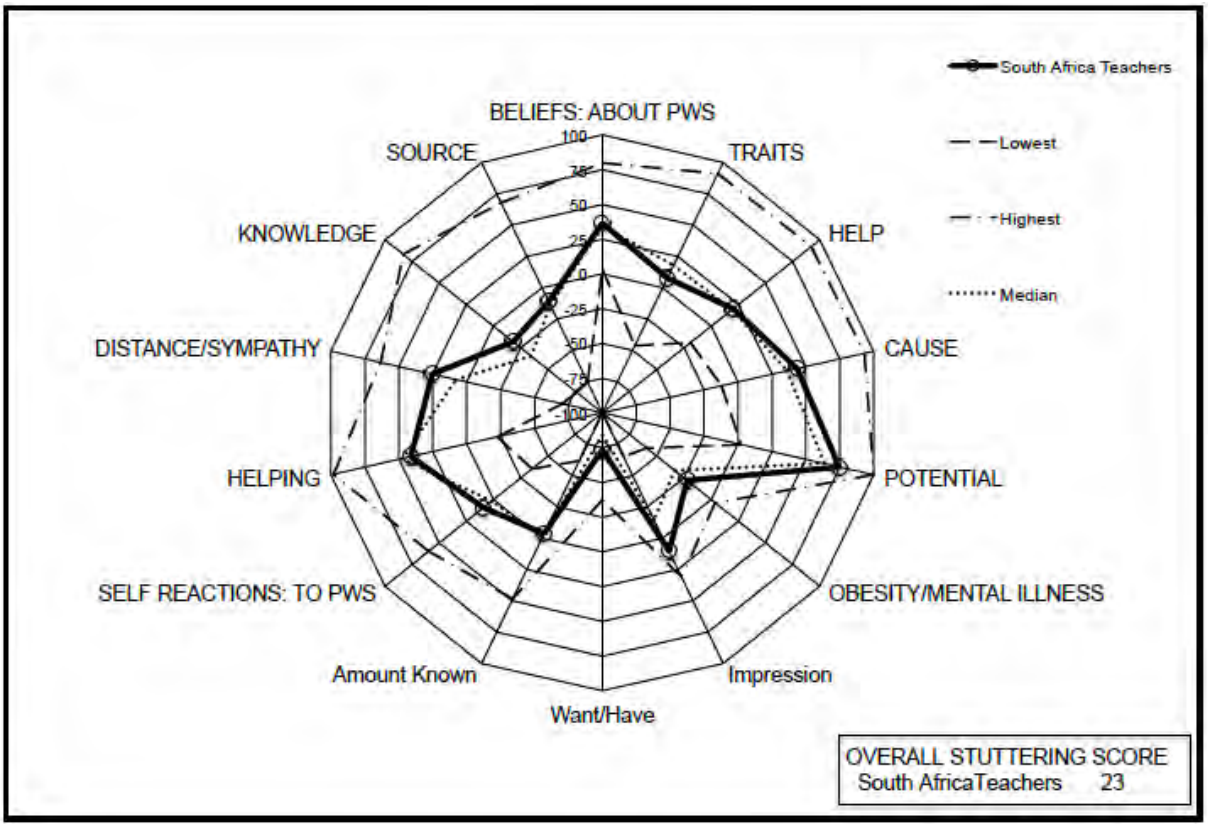

Figure 4.11. Summary of POSHA-S radial graph for the South African sample in comparison to the lowest, median and highest scores in the POSHA-S database archive (circa August 2014). All capital letters indicate components and subscores directly related to stuttering. The figure plots the scores from the POSHA-S database archive and compares it to the scores achieved for the South African sample for all of the components and subscores. Points which fall closer to the periphery of the circle, indicate more positive responses.

The South African sample scored higher for all subscores and the overall stuttering score (refer to Table 4.2). When examining each component, it is evident that the South African sample scored lower for (a) Traits/Personality, (b) Accommodating/Helping, (c) and the Amount Known about Obesity and Mental Illness. Also for the Cause component, specifically the response *act of God*, was much lower than the POSHA-S database (15 for the South African sample compared to 65 for the POSHA-S database archive). Refer to Table 4.2 for more detail.

Table 4.2

Item analysis of component scores which lower than the POSHA-S database archive

Component	Mean score South African Participants	Average score POSHA-S database archive
Traits/Personality		
Have themselves to blame	76	83
Nervous or excitable	-26	3
Shy or fearful	-28	-8
Accommodating/Helping		
Try to act like the person was talking normally	66	78
Person like me	-5	-22
Fill in the person's words	35	46
Tell the person to 'slow down' or 'relax'	-22	22
Make a joke about stuttering	93	88
Should try to hide stuttering	79	72
Cause		
Genetic inheritance	31	15
Ghosts, demons, or spirits	89	87
Frightening event	32	-1
Act of God	15	65
Learning or habit	26	18
Virus or disease	70	53

On further analysis of the component scores, specifically related to stuttering, for the Traits/Personality component, the items which received the lowest score were *PWS are nervous or excitable* (a mean score of -26 for the South African sample compared to 3 for the database archive) or *shy and fearful* (a mean score of -28 versus -8). For the component, Accommodating/Helping, the greatest difference between scores was found for the item, *if I were talking with a person who stutters, I would feel comfortable or relaxed* (South African sample scored -22 compared to 22 for the database archive).

In order to provide a more accurate comparison, percentile scores for the mean ratings for all of the items, components, subscores and overall score for the South African sample were compared to the 146 samples in the POSHA-S database. Table 4.3 details the mean scores for the overall score, subscores and components from the South African sample compared to the average scores for the database archive.

Table 4.3

South African participants' mean ratings for overall score, subscores and components compared median scores from the POSHA-S database archive, followed by percentile score.

POSHA-S variables	Mean score South African Participants	Average score POSHA-S database archive	SA sample Percentile
Overall stuttering score	**23**	18	62
Beliefs about PWS	**37**	34	54
Traits/Personality	8	18	38
Help	**20**	19	52
Cause of stuttering	**44**	36	65
Potential	**75**	64	81
Self-Reactions to PWS	**9**	2	73
Accommodating/Helping	41	47	33
Social distance/Sympathy	**25**	8	73
Knowledge/Experience	**-18**	-34	84
Knowledge source	**-11**	-14	53
Obesity/Mental Illness	**-22**	-34	91
Overall impression	**10**	-15	94
Want to be	**-73**	-84	85
Amount known about	-4	-1	41

Note. Scores for the South African (SA) sample which were higher than the median scores are in bold. Light shading representing the scores falling in the interquartile range and the dark shading representing the scores falling in the highest (4^{th}) quartile (i.e. the most positive results).

For the total of 60 comparisons conducted (i.e. for all items, components, subscores and overall stuttering score), 5% were in the lowest quartile, for the POSHA-S mean samples, 62% were in the interquartile range, and 33% were in the highest quartile. As the majority of the scores fell within the interquartile range, it can be assumed that the majority of the attitudes of the South African participants in this study aligned with the typical results found in the POSHA-S database archive. A considerable percentage of scores were in the highest quartile, indicating that the South African sample had relatively more positive attitudes. Supporting this result is the fact that the overall score for the South African sample (i.e. 23) was slightly higher than the average score of 18, indicating slightly more positive attitudes.

There were two stuttering components which fell in the fourth quartile, namely: Potential and Knowledge/Experience. Refer to Table 4.4 for more detail.

Table 4.4

Item analysis of stuttering component scores fell in the fourth quartile

Component	Mean score South African Participants	Average score POSHA-S database archive
Potential		
Can make friends	91	93
Can lead normal lives	94	87
Can do any job they want	78	51
Should have jobs requiring good judgment	37	39
Knowledge/Experience		
Amount known about stuttering	-23	-23
Person who stutter known (composite score)	-79	-85
Personal experience (me, my family, friends)	49	4

On further analysis of each item in the component, for Potential, the items which received the highest score were *PWS can make friends* (score of 91), *lead normal lives* (94 compared to 87) and *can do any job they want* (78 compared to 51). For the component Knowledge/Experience, the following item received the highest score: *personal experience with stuttering* (49 for South African sample compared to 4 for the database archive).

4.5 Secondary Aim – Associations between Demographic Factors and Teachers' Attitudes toward Stuttering

The secondary aim of the study was to explore the association between the selected demographic factors (age, gender, first language, quintile, teaching phase and years of teaching experience) and the scores on the POSHA-S.

Table 4.5 summarises the significant associations/differences between teachers' attitudes for each demographic factor. Following this description, each factor is discussed separately. All significant results are indicated with a check mark, while all of the non-significant results are blank. The results are concluded with summary tables and are followed by general conclusions.

Table 4.5

Summary of significant results for the selected demographic factors

Score	Demographic factors						
	Personal factors					Teaching factors	
	Age	Gender	First language	Exposure/ Familiarity	Quintile	Teaching phase	Years of teaching experience
Overall Stuttering Score				✓			
Beliefs about PWS				✓			
Traits/ Personality			✓				
Stuttering should be helped by…							
Cause of stuttering		✓					
Potential				✓			
Self-Reactions to PWS				✓			
Accommodating/ Helping			✓		✓		
Social distance/ Sympathy			✓	✓	✓		
Knowledge/ Experience		✓		✓			
Knowledge source				✓			

Table 4.5. *Summary of significant results for the selected demographic factors* (continued)

Score	Demographic factors						
	Personal factors				Teaching factors		
	Age	Gender	First language	Exposure/ Familiarity	Quintile	Teaching phase	Years of teaching experience
Obesity/Mental Illness							
Overall impression	✓						✓
Want to be	✓			✓			
Amount known about				✓			
General question							
Is stuttering a problem?	✓						✓

Note. Dark shading represents the overall score, light shading represents the subscores and words written in italics refer to the component scores.

Table 4.5 provides an overview of all of the results, indicating those associations which were statistically significant as well as those which are not. As evident in Table 4.5, only the personal factor exposure/familiarity had significant results for the two stuttering subscores and the Overall Stuttering Score. The rest of the significant results for both the personal and teaching factors were found for the component scores.

Teaching factors.

The following teaching factors are presented: quintile, teaching phase and years of teaching experience.

Quintile.

There were differences found between attitudes of higher and lower quintile teachers. Table 4.6 summarises the significant associations for quintile for the components, Helping and Social Distance/Sympathy.

Table 4.6

Summary of the significant associations, interpretation and conclusions for quintile

Component	Statistical test	Interpretation	Conclusion
Accommodating/ Helping	Fisher's exact test χ^2 (2, N=450) = 28.6, p < .001	Higher proportion of 5 scored in the higher quintile (63.4%). Over 70% of the participants in the lower quintiles selected responses 1, and 3.	Participants in the higher quintile schools provided more 'positive' responses.
Social Distance/ Sympathy	Fisher's exact test χ^2 (3, N=462) = 17.7, p< .001	Higher proportion of participants in higher quintile with a score of 5 (63.4%). Lower quintile more commonly selected responses 1, 2 and 3.	Participants in the higher quintile schools were more likely to provide a more 'positive' response.

Both sets of results indicate that in general, participants in the higher-quintile schools provided higher and more favourable responses for the components Helping and Social Distance/Sympathy than participants in the lower-quintile schools. Refer to Figures I1 and I2 and Tables I1 and I2 in Appendix I for graphic representations for quintile, which provides further detail on the distribution of the results.

Teaching phase.

Chi-square test found no differences for teaching phase. There were no significant associations between POSHA-S scores for participants from foundation and intermediate phase.

Years of teaching experience.

As this factor is continuous, the distribution was analysed. Years of teaching experience was not normally distributed and therefore nonparametric methods were utilised. Refer to Figure I3 in Appendix I for histogram depicting the distribution for years of teaching experience.

There was a significant difference found for years of teaching experience and whether stuttering was a problem. The result in Table 4.7 indicates that participant scores for whether stuttering is a problem is influenced by years of teaching experience.

Table 4.7

Summary of the significant differences, interpretation and conclusions for years of teaching experience

Question	Statistical test	Interpretation	Conclusion
Is stuttering a problem?	Mann-Whitney U Standardised test statistic = 2.52, N=318, p=.012	The median number of years of teaching experience was higher for those who thought that stuttering was a problem compared to those who did not.	Participants with more years of experience were more likely to think that stuttering was a problem.

The results indicate that participants who had fewer years of teaching experience were more likely to provide responses which were more favourable compared to participants who had more years of teaching experience. Refer to Figure I4 in Appendix I for box-plot graph depicting the distribution of the results.

Personal factors.

The following personal factors are discussed: age, gender, first language, and exposure/familiarity.

Age.

In order to determine the appropriate statistical tests to use, the distribution of the continuous factor was analysed. Age was not normally distributed and therefore nonparametric methods were utilised. Refer to Figure I5 in Appendix I for histogram depicting the distribution for age.

The results indicated that there was a significant difference in responses for whether stuttering was a problem depending on the participant's age. Table 4.8 provides a summary of the significant results for age.

Table 4.8

Summary of the significant differences, interpretation and conclusions for age

Question	Statistical test	Interpretation	Conclusion
Is stuttering a problem?	Mann-Whitney U Standardised test statistic = 2.15, N = 287, p = .032	The median age for those who thought stuttering was a problem was higher than the median age for those who did not.	Participants who did not think stuttering was a problem were more likely to provide higher more favourable responses.

The results indicate that participants who were younger were more likely to provide responses which were more favourable compared to older participants. Refer to Figure I6 in Appendix I for box-plot graph depicting the distribution of the results.

Gender.

There were differences found for male and female participants. Table 4.9 summarises the significant associations for gender and the components Cause and Knowledge/Experience.

Table 4.9

Summary of the significant associations, interpretation and conclusions for gender

Component	Statistical test	Interpretation	Conclusion
Cause	Fisher's exact test χ^2 (2, N=423) = 7.3, p=.026	Higher proportion of males who scored 5 (85.9%) than females (72.2%). Higher proportion of females who scored 3 (20.5%) than males (9.8%).	Males more likely to provide a higher, more favourable response than females.

Table 4.9. *Summary of the significant associations, interpretation and conclusions for gender* (continued).

Component	Statistical test	Interpretation	Conclusion
Knowledge/Experience	Fisher's exact test χ^2 (8, N=457) = 17.8, p=.023	Higher proportion of males who scored a 5 (18.6%) than females (10.5%). For scores 1 and 2, higher proportion of females (19% and 10.2%) than males (12.4% and 3.1%).	Males more likely to provide a higher, more favourable response than females.

The results indicated that males were more likely to provide higher, more favourable responses for the components Cause and Knowledge/Experience than females. Refer to Tables I3 and I4 and Figures I7 and I8 in Appendix I for bar graphs and tables depicting the distribution of the results related to gender. Caution should be taken during interpretation of the results due to the limited number of male participants in the sample.

First language.

Differences were noted between participants who spoke Afrikaans, English, isiXhosa or 'Other' for their first language. Table 4.10 provides a summary of the significant associations found for first language for the components, Traits/Personality, Accommodating/Helping and Social Distance/Sympathy.

Table 4.10

Summary of the significant associations, interpretation and conclusions for first language

Component	Statistical test	Interpretation	Conclusion
Traits/Personality	Chi-square χ^2 (9, N=451) = 28.7, p=.001 Fisher's exact test could not be conducted as statistical programme could not compute as calculation exceeded memory of software.	Higher proportion of people who spoke Afrikaans as a first language who indicated 1 (62.5%) compared to the other first languages. English (45.3%), IsiXhosa (41.9%) and Other (43.2%) - majority indicated 5.	Afrikaans first language speakers more likely to provide lower, less favourable responses compared to people who speak any of the other first languages.
Accommodating/Helping	Fisher's exact test χ^2 (6, N=450) = 33.5, p< .001	High proportion of first language isiXhosa speakers who obtained a score of 1 (60.4%). Even distribution for score of 5 - Afrikaans (26.3%), English (32.2%), isiXhosa speakers (33%). For English speakers, 2.3% of responses were either 1 or 3.	First language English speakers more likely to provide a higher more favourable score than any other language. First language isiXhosa speakers more likely to provide a lower, less favourable score.

Table 4.10. *Summary of the significant associations, interpretation and conclusions for first language* (continued).

Component	Statistical test	Interpretation	Conclusion
Social Distance/ Sympathy	Chi-square χ^2 (9, N=462) = 30.98, p < .001 Fisher's exact could not be computed as calculation exceeded memory of software.	Higher proportion of first language English speakers who indicated 5 (81.9%) than any other language. Higher percentage of Afrikaans (28.3%) and IsiXhosa (34.7%) participants scored 1 compared to English speakers (15.7%).	First language IsiXhosa and Afrikaans speakers more likely to respond with lower, less favourable scores than English speakers. First language English speakers more likely to provide higher more positive scores than any other language.

The results indicated that first language English speakers were generally more likely to provide higher, more favourable responses than any other language. Refer to Tables I5, I6 and I7 and Figures I9, I10 and I11 in Appendix I for summary bar graphs and tables depicting the distribution of the results related to first language.

Exposure/Familiarity.

Significant results were found for whether participants knew a PWS or not. Table 4.11 summarises the significant associations related to exposure/familiarity (i.e. question 'do you know someone who stutters?').

Table 4.11

Summary of the significant associations, interpretation and conclusions for exposure/familiarity

	Statistical test	Interpretation	Conclusion
		Component	
Potential	Fisher's exact test χ^2 (2, N=445) =20.88, p < .001	Higher proportion of participants who did not know a PWS who scored 3 (66.7%) compared to those who did (33.3%). For score of 5 – higher proportion of participants who knew a PWS (95.8%) than those who did not (84.8%).	Participants who did not know a PWS more likely to provide a score of 3.
Social Distance/ Sympathy	Fisher's exact test χ^2 (3, N=451) =12, p = .007	Higher proportion of scores of 5 seen for participants who knew a PWS (70.8%) as compared to those who did not (54.4%).	Participants who knew a PWS more likely to provide, higher, more favourable responses.
Knowledge/ Experience	Fisher's exact test χ^2 (4, N=449) = 29.78, p < .001	Higher proportion of scores of 4 and 5 for participants who knew a PWS (27.7%, 13.1%) compared to those who don't (19.4%, 6%). Score of 1 – higher proportion of participants who did not know a PWS (35.8% vs. 13.9%).	Participants who knew a PWS more likely to provide, higher, more favourable responses.
Knowledge Source	Chi-square χ^2 (2, N=421) = 15.78, p < .001	Scores of 1 and 5 – proportions all follow similar distribution. Score of 3 – even distribution, with equal proportions.	No conclusion could be drawn. No noticeable differences in results.

Table 4.11. *Summary of the significant associations, interpretation and conclusions for exposure/familiarity* (continued).

	Statistical test	Interpretation	Conclusion
		Subscore	
Beliefs about Stuttering	Fisher's exact test χ^2 (2, N = 447) = 10.52, p = .005	Higher proportion of scores of 5 for those who knew a PWS (92.7%) compared to those who did not (81.9%).	Participants who knew a PWS more likely to provide higher, more favourable responses.
Self-Reactions to Stuttering	Fisher's exact test χ^2 (4, N = 452) = 16.92, p = .002	Higher proportion of participants who knew a PWS who scored 5 (78.4%) than those who did not (60.3%). Score of 1 – higher proportion of participants who did not know a PWS (30.9%) than those who did (19%).	Participants who knew a PWS were more likely to provide more favourable responses than those who do not. Participants who do not know a PWS were more likely to provide a less favourable response.
		Overall score	
Overall Stuttering Score	Chi-square χ^2 (2, N = 452) = 15.996, p < .001	Higher proportion of scores of 5 seen for people who knew a PWS (85.4%) compared to those who did not (66.2%).	Participants who knew a PWS were more likely to provide more favourable responses.

On further analysis, the results highlighted that participants who knew a PWS were more likely to provide more favourable responses. Refer to Tables I8-I14 and Figures I12-I18 in Appendix I for tables and bar graphs related to exposure/familiarity

4.6 Summary of Results

For the aim 1, the description of the sample, the following results were found: (1) many participants were optimistic about the potential of PWS although personality stereotypes were still evident; (2) responses were diverse for their perceived cause of stuttering; (3) many respondents did not believe they should help a PWS, but agreed that a SLT should; (4) participants were positive about how they would react when talking to someone who stutters and their classroom management strategies; and (5) the majority of respondents were familiar with stuttering, but would not want to possess the attribute.

For aim 2, when the South African data was compared to the POSHA-S database archive, it was found that the results for the South African sample were slightly more positive as indicated by the Overall Stuttering Score and the fact that the majority of results either fell in the interquartile range or the

fourth quartile. On further analysis of the results, it was found that two stuttering components, namely Potential and Knowledge/Experience fell in the fourth quartile. The component, Traits/Personality, Accommodating/Helping and Amount Known about Obesity/Mental Illness were lower than the POSHA-S database archive.

For the secondary aim, upon exploring the selected demographic factors, no significant associations were found for the teaching factor, teaching phase. Statistically significant results were found for the following teaching factors: quintile and years of teaching experience, and the following personal factors: age, gender, first language and exposure/familiarity.

Chapter 5 – Discussion and Conclusions

The discussion is structured in relation to the aims of the study. The discussion of the primary aims is followed by the discussion of results for the secondary aim. For the descriptive analysis, the discussion considers the two stuttering subscores (i.e. Beliefs about Stuttering and Self-Reactions to Stuttering), teachers' impressions of stuttering compared to the other human attributes and teachers' classroom management strategies. The comparison to the POSHA-S database archive considers the Overall Stuttering score, the percentile ranking for the components, both more and less positive than the POSHA-S database archive. The exploration of the selected demographic factors considers the potential reasons for the significant results. Explanations and potential implications for intervention planning are discussed throughout.

5.1 Emerging Trends in Teachers' Attitudes toward Stuttering in the South African Context

Beliefs about stuttering.

For the Beliefs about Stuttering subscore, the majority of the components, including Potential, Cause and Traits/Personality are discussed in relation to the POSHA-S database. Based on the Help component, some teachers (43.5%) did not believe that they should be someone who helps PWS. This result may be linked to the fact that teachers do not feel they have the knowledge and skills necessary to adequately assist a CWS (Berquez, Cook, Millard, & Jarvis, 2011). Teachers are key figures in the lives of CWS as they are one of the main communication partners for children in the classroom (Gottwald & Hall, 2003). Teachers' behaviours and practices in the classroom are closely related to their attitudes and behaviours (Pajares, 1992; Rimm-Kaufman & Sawyer, 2004). In essence, changing beliefs and improving attitudes will have an impact on behaviour. As previously discussed in the review of the literature, there is a general consensus that improved knowledge can lead to improved attitudes (Crowe & Walton, 1981; Hobbs, 2012; Yeakle & Cooper, 1986). The implementation of professional development programmes related to stuttering may therefore improve teachers' knowledge about stuttering and subsequently, their beliefs/attitudes. As a consequence of increased knowledge, teachers may feel more confident in their ability to assist a CWS in the classroom.

Self-reactions to stuttering.

For the Self-Reactions to Stuttering subscore, the following components will be discussed: Accommodating/Helping, Social Distance/Sympathy, Knowledge/Experience and Knowledge Source.

According to Rimm-Kaufman and Sawyer (2004), teachers' attitudes, beliefs and priorities are closely related to their classroom behaviours and practices, forming the framework for decision-making. Therefore changing teachers' attitudes is essential in improving their reactions toward PWS. Through improving teachers' knowledge about stuttering, it may improve their attitudes and subsequently their behaviour/reactions. Many studies have noted that participants showed a lack of knowledge about stuttering and identified education as a crucial component in improving attitudes (Abdalla et al., 2014; Marshall, 2002; Yeakle & Cooper, 1986). As a result, the current study sought to determine the impact of teachers' perceived knowledge on their attitudes and perceived ability to assist a CWS. In the current study, as with the previous literature, from the Knowledge/Experience component, it was clear that there was a lack of perceived knowledge as teachers generally indicated that they knew the least about stuttering compared to the other human attributes (i.e. intelligence, left-handedness, mental illness and obesity, refer to Figure 4.6). Stuttering may be viewed as less common than the other human attributes and therefore teachers perceive that they have less exposure to stuttering and subsequently less knowledge. Teachers also cannot readily access speech therapy services (Kathard et al., 2011) and therefore prevention and promotion activities geared at educating teachers about stuttering are limited. With inadequate access to information, it is not surprising that teachers perceive that they have limited knowledge on stuttering. Despite the overall positive result, there is still room for reducing negative attitudes teachers hold and for reinforcing positive attitudes.

By understanding teachers' attitudes and beliefs, planning of intervention can be catered specifically to the needs of teachers. For example, interventions could target specific areas where knowledge has found to be lacking or it could address negative attitudes directly. There is a clear need for increased awareness and educational interventions in order to increase teachers' knowledge about stuttering and to reduce the stigma attached to stuttering (Abdalla & St. Louis, 2014). Increased knowledge about stuttering and how to manage a CWS in the classroom, can lead to a healthier school environment (Abdalla & St. Louis, 2014); more positive attitudes by teachers (Hobbs, 2012) and subsequently, peers (Boberg, 2012; Jenkins, 2010).

Based on the Knowledge Source component, data in the current study indicates the majority of teachers (71.7%) indicated that they gained their knowledge about stuttering from *personal experience* or from

school (refer to Figure 4.7). Therefore the most effective way in which to target teachers may be through the school system. Written publications may not be the most appropriate as just over half of the teachers sampled used this form of media to attain their knowledge (51%). Offering workshops and courses aimed towards educating teachers about stuttering may be the most effective medium for transferring knowledge. Although not reported in the findings of the questionnaire, teachers were asked whether they had anything else they would like to add and many teachers emphasised the need for workshops to be initiated at schools. Abdalla et al. (2014) attempted to change pre-service and in-service teachers' attitudes toward stuttering. They found that it was possible to positively change teachers' attitudes through the use of an educational documentary.

Analysis of the results for the Self-Reactions to Stuttering subscore generally indicated that teachers would be considerate when interacting with a PWS. Based on the Accommodating/Helping component, many teachers would *try to act like the person was talking normally* (81.5%) and *speak calmly and slowly to the person* (67.4%). Teachers also indicated that they would not *feel impatient* (89.2%) or *pity* (64.9%) based on the results from the Social Distance/Sympathy component. The environmental context in which a child communicates is important to take into consideration as the reactions of teachers and peers can affect the child's fluency (Yaruss & Reardon, 2002). Conture et al. (2006) highlight the importance of 'pressure free' response time for CWS within the educational setting and the results from the study are therefore encouraging as teachers report acting in a way which seems to promote fluency through creating an environment which does not put too much pressure on the CWS.

Stuttering compared to other human attributes.

However, while the positive attitude is celebrated, it must also be recognised that stuttering is classified similarly to obesity and mental illness, as reflected in the results of the study. The participants' scores were more negative when compared to the other human attributes, such as left-handedness and intelligence. Teachers indicated that they would not want to possess any of the three attributes (Refer to Figure 4.10). It is apparent that no one desires to be different or be diagnosed with an illness or disability. In society today, especially Western culture, there is an increase in the need for people to act and look a certain way (Marini, Glover-Graf, & Millington, 2012). According to the social model of disability, by adopting norms and values based on appearance and behaviour, it is the society that creates stigmatisation and discrimination (Flaherty, 2006). Based on this social model, it can be concluded that it is the society or the culture that classifies people with disability as inferior, which

results in marginalisation (Flaherty, 2006). Difference, disability and illness are not characteristics which people (in this instance, teachers) want to possess if they deviate from the norm. As a consequence, people who have these attributes are isolated and discriminated against. It is clear that this group of participants views stuttering as evidence of difference, similar to the attributes of obesity and mental illness.

The potential impact of teachers' classroom management strategies on CWS.

Questions related to classroom management strategies were added to the questionnaire and, therefore, these results were analysed separately from the rest of the results. As previously noted, teachers seem to respond to stuttering in a considerate manner. The majority of teachers indicated that they would *know how to react* (71.9%). Encouragingly, many teachers also indicated that they would *praise the student when they spoke well* (84%). Positive reinforcement of fluent speech is essential in creating an environment where CWS feel comfortable (LaBlance, Steckol, & Smith, 1994). It may, therefore, be important to reinforce these positive behaviours, by highlighting how positive reactions assist CWS. Providing teachers with support and reassurance may improve teachers' beliefs that they can assist a child who stutters become more fluent.

There was an even distribution of responses for the statements, *talk to the student about his/her stutter* and *talk to the class about the student's stutter* (refer to Figure 4.8). By discussing stuttering with the class, teachers might presume that it will draw unwanted attention to the learner in the classroom and this, in turn, may lead to more isolation and discrimination. Teachers' self-perceived lack of knowledge about stuttering (as previously discussed) may also be a contributing factor as, if teachers do not have knowledge about stuttering, how are they supposed to discuss it in the classroom? According to Gottwald and Hall (2003), teachers may harbour concerns about the best manner in which to interact with a CWS, fearing that the stutter may become worse if attention is drawn to it. As a result, this reaction may lead to a lack of opportunity to communicate in the classroom (Gottwald & Hall, 2003). According to Ramig & Dodge (2010), a classroom where stuttering is acceptable is one of the most therapeutic. In order to facilitate a 'stuttering-friendly' environment, providing learners with information about stuttering may be useful (Ramig & Dodge, 2010). Classroom presentations may be an effective way of conveying the information to peers of CWS (Ramig & Dodge, 2010). However, teachers may feel that they do not have the adequate knowledge to discuss stuttering with the class. Consequently, Ramig and Dodge (2010) stress the importance of SLTs in the planning process for presentations. As SLTs are not readily available in the South African school setting (Kathard et al., 2011), the responsibility largely falls on the teacher. Without proper knowledge and support,

discussions related to stuttering may be a daunting task for teachers. Intervention planning may therefore consider providing teachers with reinforcement of good practices and potential ideas about how to manage issues of participation that may arise.

While the majority of teachers had positive classroom management strategies, there were teachers who did not. Most teachers in the current study indicated that they would not *excuse a child from talking in front of the class* (84.6%). Pachigar et al. (2011) found, through interviewing teachers following their survey, that teachers would not excuse a child from speaking in front of the class due to the curriculum demand for oral communication and due to teachers' perceptions that excusing a child from participating may make them more noticeable. While it is important to not to exclude a CWS who wants to participate, teachers may unintentionally place demands on a CWS to take part in classroom discussions before that child is ready (Yaruss & Reardon, 2002). Even though the teachers' responses may be innocent, it can still have an impact on the child's reaction toward their own speech (Yaruss & Reardon, 2002).

Poor classroom management can lead to negative consequences for learners who stutter. As a result, it is important to focus on teachers as a group because there is a discrepancy in management strategies employed by the teachers/participants in this study. Further education of teachers who responded less favourably will be essential in creating classroom environments which are conducive to fluent speech. These issues could potentially be further explored through workshops.

5.2 Deepening the Understanding of How the South African Sample Compares to the POSHA-S Database Archive

The results of the comparison with the POSHA-S database archive indicate the overall positive attitudes of participants toward stuttering, as highlighted by the Overall Stuttering Score. The South African sample was slightly more positive than the POSHA-S database archive (23 vs. 18), further corroborating the general, overall positive result found for the descriptive analysis. The positive result was also evident as teachers' Overall Impressions and Desire to have Obesity and Mental Illness fell within the fourth quartile in the 91st and 85th percentile respectively. The result indicated that teachers in the South African sample provided more favourable responses than those in the database archive (refer to Table 4.3). Even though the results were still somewhat negative overall, it is encouraging to see that teachers in South Africa were more accepting of the attributes which were generally viewed as negative in the database. The potential reasons for the positive result of the South African sample were determined by conducting a more in-depth analysis of the results (i.e. analysis of the percentile scores).

On further analysis, two components directly related to stuttering which fell in the fourth quartile (i.e. were substantially higher than the responses in the database) were Knowledge/Experience and Potential (refer to Table 4.3). Each component was further analysed to determine which items contributed to the result.

When considering Knowledge/Experience, the item *personal experience* with stuttering influenced the overall, positive result as the component fell in the fourth quartile (88th percentile, refer to Table 4.4). The result is not surprising as teachers interact with children on a daily basis, and the chances of a teacher educating a learner who stutters is much higher than a member of the public coming into contact with a CWS. The result may also highlight that there is a large percentage of teachers who have had personal experience with stuttering. Previous research (Heite, 2000; Klassen, 2001, 2002; Langevin et al., 2009) has highlighted familiarity with stuttering as a contributing factor toward more positive attitudes. If the majority of teachers are aware of, and have had experience with PWS, they may understand the difficulties CWS face in the classroom setting.

For the Potential component, the result highlights that participants in this study generally believed that PWS could be productive members of society (Refer to Table 4.4). The result may be influenced by the general thrust of the revised post-apartheid curriculum, which has focussed on embracing diversity, inclusivity and tolerance (Department of Education, 2001). These results are encouraging as CWS are more likely to be included in an inclusive education system, which relies on teachers holding positive attitudes towards children identified as having barriers to learning (Avramidis & Norwich, 2002). Furthermore, the result is encouraging for intervention-planning as a positive attitude towards the potential of PWS is essential for the success of any intervention programme (Snyder, 2001).

It should also be noted that there were two stuttering scores which were lower than the average score of the POSHA-S database archive, namely: the Traits/Personality component and the item *act of God*, related to the Cause component (Refer to Table 4.2). The possible reasons and implications of each result are discussed. The Trait/Personality component score fell far below the 50th percentile. The items which contributed to the lower score for the South African sample related to personality stereotypes (refer to Table 4.2). Within the South African sample, the result indicated that this group of teachers was more likely (than the total sample in the database archive) to indicate that PWS were *shy or fearful* (28th percentile) or *nervous or excitable* (20th percentile). This may highlight that, within the teaching profession, the prevalence of personality stereotypes may be predominant. MacKinnon et al. (2007) theorised that stuttering stereotypes originated from the anchor-adjustment hypothesis which states that

'people adopt another person's perspective by serially adjusting from their own perspective' (MacKinnon et al., 2007, p. 300). Their study concluded that the formation of the stuttering stereotype was due to generalisations and adjustments that fluent speakers make, based on their own personal experience of normal dysfluency (MacKinnon et al., 2007). Teachers may, therefore, believe that PWS possess certain personality stereotypes based on their own experiences with normal dysfluency. Coupled with the fact that the current study found that teachers perceived they had limited knowledge on stuttering and, that they generally obtained this knowledge from personal experience; the anchor-adjustment hypothesis may be a viable explanation for the results found.

On further analysis of each item, the score for *an act of God*, as a potential cause of stuttering was found to be lower (i.e. less favourable attitude) than the POSHA-S database archive (score of 15 for the South African sample compared to 65 for the database archive, refer to Table 4.3). In many African cultures, disability and illness are viewed in a spiritual framework (Legg & Penn, 2013) and, therefore, the belief that stuttering is caused by *an act of God* may be more prevalent. The analysis of the factor quintile, indicated that teachers in the lower quintile (i.e. score fell in the ninth percentile) were more likely to agree that stuttering was caused by *an act of God* than those in the higher quintile (i.e. score fell in the 46th percentile). The result clearly shows that populations may vary in how they view potential causes of stuttering. Teachers in rural areas may perhaps have different attitudes and beliefs about stuttering which differ from the findings of the current study, which focussed on an urban population. As a consequence, interventions may be required to be specifically tailored to the targeted community. The results also highlight that SLTs cannot assume that all communities will respond to stuttering in the same way. It is therefore important to gain a nuanced understanding of the views of the community before the implementation of any professional development programme.

In post-apartheid South Africa, there has been a concerted effort to embrace diversity, improve tolerance, and enhance the understanding of difference (Organisation for Economic Co-operation and Development, 2008). The constitution of the country, regarded as the most progressive in the world, upholds values of 'human dignity, the achievement of equality and the advancement of human rights and freedoms' (South African Government, 2014, Section 1a). These values are embedded in policy documents in all sectors of society. In education, the implementation of educational policies which embrace diversity - regardless of disability, gender, race, socioeconomic status, religion and language (Department of Education, 2001) - may be seen in the results which show that teachers are accepting of difference and diversity. Interestingly, although teachers seem to embrace diversity among learners, teachers indicated that they did not want to be different themselves. The finding may be related to the

fact that disability may be more difficult to accept when it is related to one's self. Specifically, White Paper 6 (i.e. special needs education – building an inclusive education and training system, Department of Education, 2001) encourages embracing diversity in the classroom (Oswald & Swart, 2011). The implementation of inclusive practices may have increased teacher positivity to managing classrooms with diverse learner needs. Furthermore, if teachers have the belief that all children have the potential to succeed, and they are confident in their ability to educate learners, regardless of difficulties they experience, they will be more likely to hold positive attitudes towards children with barriers to learning in their classrooms (Avramidis & Norwich, 2002). The results are encouraging for this group of participants, the teaching profession, addressing disability and difference within the school context, and may bode well for the future of inclusive education.

5.3 Factors Potentially Influencing the Overall Positive Result

While the overall result indicates a positive attitude of the sample, a closer examination of the findings indicated that the majority of responses for the South African sample fell within the interquartile range (62%) when compared to the database archive. As a result, the findings of the study should be interpreted with caution. The overall result may mask the fact that there is still a substantial percentage of teachers who hold negative attitudes toward stuttering. The sample is not homogeneous, as highlighted by the significant differences reported on certain of the demographic factors which were investigated. Furthermore, participants who respond to questionnaires are generally more positively inclined (Jenkins et al., 2013). Teachers who were more positive toward stuttering are more likely to participate in the study than teachers who are not. In all questionnaires, there is a possibility that the participants might provide responses which are more socially acceptable than their true beliefs (i.e. the Hawthorne effect, Benson, 2004). Teachers may have thought that negative attitudes toward PWS may be viewed as unacceptable for their profession (Irani & Gabel, 2008). Individuals may be reluctant to overtly state negative attitudes due to the predisposition of society to political correctness (Irani & Gabel, 2008). It is also important to take into consideration that the non-respondents (those who did not complete the questionnaire) may have held more negative views toward stuttering. As a result, caution should be exercised when generalising the findings of the study to the broader teaching profession.

However, the positive results provide a good platform for the development of interventions because if teachers are more positive about PWS, they will most likely be more responsive towards receiving assistance to manage CWS. As previously mentioned, the distribution of responses indicated that there are still teachers who hold more negative views. Intervention within the school context may, therefore,

be concentrated on those teachers who hold unsubstantiated views on stuttering and CWS. Teachers play a pivotal role in the educational growth of CWS and their attitudes and beliefs about stuttering can affect the way in which they manage CWS in the classroom setting (Jenkins, 2010). Teachers' behaviour towards CWS can also have an impact on how other children in the classroom view and treat CWS, which may affect the self-image of CWS and their relationships with their peers (Jenkins, 2010). Therefore, negative attitudes held by teachers may not only affect the management of CWS but also have an impact on how other children in the class perceive and treat CWS. By addressing and improving teachers' attitudes toward stuttering, peer attitudes may also be indirectly improved.

5.4 Exploring the Influence of Demographic Factors on Teacher Attitudes

This discussion is related to the secondary aim which relates to the explored demographic factors. The possible rationale for results of the association between each demographic factor, teachers' attitudes, and the potential implications of these associations for intervention planning are discussed.

There were no statistically significant results found for teaching phase. The result indicates that teaching phase did not play a significant role in determining attitudinal scores. Therefore, teachers may have similar attitudes toward stuttering regardless of what primary grade they teach. Intervention may, therefore, target primary school teachers as a group rather than being concentrated on a specific teaching phase.

Although there were no differences found in attitudes of foundation- and intermediate-phase primary school teachers, there may be a greater difference in attitudes between primary- and high-school teachers. The findings of Yeakle and Cooper (1986) state that teachers in the upper grades were less likely to believe that stuttering was the most disruptive speech and/or language disorder. Yeakle and Cooper (1986) attributed the differences to the skills taught in the different grades.

There were differences noted for teachers in the higher and lower quintiles with regard to the Helping and Social Distance/Sympathy components (refer to Table 4.6). The results indicated that teachers from the higher quintile were more likely to provide more positive responses. The result suggests that teachers from the higher quintile may have more positive attitudes toward stuttering than teachers from the lower-quintile group.

Differences were noted for the personal factor, first language, specifically relating to the POSHA-S components Traits/Personality, Accommodating/Helping and Social Distance/Sympathy (refer to Table

4.10). The majority of teachers in the lower quintile spoke IsiXhosa (83.4%) compared to the higher quintile who spoke English (45.5%) or Afrikaans (42%). Language is a reflection of culture and is shaped and influenced by it (Jiang, 2000); therefore, the result may provide indirect insight into the effect of culture on attitudes toward stuttering. Similarly, the study found that first-language English-speaking teachers provided more positive scores than any other first language for the components Helping and Sympathy. First-language English speakers have access to more resources and materials in order to gain knowledge about stuttering (Pascoe et al., 2010). Limited resources are available in any of the other official languages of South Africa (Department of Education, 2013). Not only are resources limited, but in the lower quintile schools, access to resources is also lacking (Department of Education, 2013). Access to, and availability of resources may therefore have an impact on the difference in attitudes between teachers who speak different languages. The result highlights that a complex range of factors may influence views on stuttering.

For exposure/familiarity, differences were noted between teachers who knew someone who stuttered and those who did not with regard to the POSHA-S components, Potential, Social Distance/Sympathy, Knowledge/Experience, Knowledge Source; as well as the two stuttering subscores and the Overall Stuttering Score (Refer to Table 4.11). A larger percentage of teachers in the lower quintile did not know someone who stutters (12.4% HQ vs. 21.6% LQ) or reported having had someone who stutters in their classroom (29.1% HQ vs. 20.8% LQ). The result may provide further understanding of the differences in attitudinal scores between higher- and lower-quintile teachers. It has been established in literature that, with more exposure to, and familiarity with stuttering, there is a greater chance of positive attitudes toward PWS (Heite, 2000; Klassen, 2001, 2002). Teachers in the lower quintile knew fewer PWS, which may have contributed to the lower scores on these POSHA-S scores. Another potential reason for teachers in the lower quintile having had less experience with stuttering is the number of students in the classroom. The study found that on average there are more children per class in the lower quintile schools (i.e. ±40 students) compared to the higher quintile (±36 students). As noted by Pachigar et al. (2011), because of the high number of students in each class, it is possible that teachers have CWS in their classrooms; however, these children have not been identified. The result also highlights the importance of personal experience with attitudes toward stuttering (Heite, 2000; Klassen, 2001, 2002; Langevin et al., 2009). Heite (2000) indicated that personal experience with stuttering, specifically in the classroom setting, had the greatest impact on positive management strategies. It is unclear from our results how the type of relationship impacts positively toward stuttering. It could not be established whether having experience within the classroom setting was more

important than general familiarity with stuttering. The study did not conduct a multinomial analysis to examine the combined effects of factors and further analysis would, therefore, need to be conducted.

It was found that teachers who were older or who had more years of teaching experience were more likely to indicate that stuttering is a problem. This finding seems unusual as one would expect that teachers with less opportunity to teach a CWS in their class, or fewer years of teaching experience, would display more unfavourable attitudes toward PWS. Conversely, teachers with more experience should, in theory, have more positive attitudes due to more familiarity with stuttering in the classroom context. Similar to findings in the current study, Erdem (2013) found a significant, negative correlation between length of service and teachers' awareness of stuttering, and reported that teachers with less experience were more likely to be aware of stuttering. For the South African context, the result may be explained by the education of pre-service teachers. Presently, the education of teachers in South Africa provides them with knowledge about how to accommodate learner diversity in the classroom (Oswald & Swart, 2011), as stipulated by White Paper 6 (Department of Education, 2001). The curriculum, therefore, aligns with the social model of disability because it views disability as a problem, not with the individual, but with the inability of the economic, societal, political and educational systems and culture to meet the needs of the individual (McEwan & Butler, 2007). Previously, teacher education was influenced by the medical model as evident in the training of teachers, either in general or special education (Donohue & Bornman, 2014). Many teachers were, therefore, not equipped with the necessary skills to educate learners with disabilities (Donohue & Bornman, 2014). Attitudes surrounding separate education for learners with disability became ingrained in the teaching culture of South Africa (Ntombela, 2011). As a result of the type of education teachers received, together with the values each system endorsed, it is not surprising that older teachers (trained in a less-inclusive approach) would display more negative attitudes toward disability and stuttering than their teaching counterparts with fewer years of experience.

Significant differences were found for gender with regard to the POSHA-S components Cause and Knowledge/Experience (refer to Table 4.9). Male teachers were more likely to provide a more positive response than females. The result proves interesting as the review of the literature noted either no differences in attitudes (Burley & Rinaldi, 1986; Patterson & Pring, 1991; St. Louis 2012a) or that males held less favourable attitudes (Dietrich et al., 2001; Schroeder, 2011). Further investigation into the results is necessary as it is unclear from current data why male teachers would achieve higher, more positive scores than females.

5.5 Strengths and Limitations

As this is one of the first studies to consider teachers' attitudes toward stuttering, it provides a good platform for understanding attitudes within the primary school system in the urban area of the Western Cape and provides clinicians with insight into intervention planning. The large sample size makes the study robust and thereby improving the generalisability of results. However, given the diversity of schools in South Africa, the applicability of findings to other geographical areas must be made with caution. In spite of these cautions, this study has a number of findings which can inform the planning of interventions.

The high response rate (83.8 %) for completion of the questionnaire highlights the benefits of the methodological procedure used. Questions and clarifications were possible during the completion of the questionnaire, due to the data collection procedure used, which should have decreased misunderstanding or incorrect completion of the questionnaire.

The POSHA-S was designed for group comparisons, but in order to compare across demographic factors, greater variability was needed. Therefore, comparisons between individual responses had to be made as opposed to group comparisons. Subsequently, further modifications were made to the data analysis process in order to make the study as statistically sound as possible (i.e. the use of mode scores compared to mean scores etc.), while attempting to keep the methodology as similar as possible to POSHA-S (i.e. the use of the component's sub-scores etc.). Although changes were made to the data analysis process, it was strengthened by the use of statistics which were more appropriate for the type of data collected.

As this study was the first study of teachers' attitudes conducted in South Africa, many difficulties were experienced which should be considered when designing future studies of the same nature. There was a general lack of organisation at the schools which was evident in lack of co-ordination and miscommunication between the principal and teachers, double-bookings and difficulty in contacting schools. Difficulties were also noted with the administration of the POSHA-S. For example: (1) some teachers were unfamiliar with the word 'acquaintance' and therefore substituting the word with a synonym may be a viable option; and (2) the word 'native' to describe language was considered offensive by some teachers. For the South African context, it may be more appropriate to use 'home' or 'first language'.

The following methodological limitations of the study are acknowledged and were kept in mind during the interpretation of the results:

(1) The results for all participants who agreed to participate in the study were utilised in the analysis. As initially stated by the developer of the POSHA-S, participants who do not complete the whole questionnaire should not affect the results significantly. On further analysis of the results, it was noted that there were participants who did not complete the majority of the questionnaire. In future, it is suggested that the quality of the responses be determined in order to decrease the possibility of inaccuracies in the analysis (Trochim, 2006).
(2) Schools were randomly selected. It was most appropriate to randomly select teachers, but as it was not practical, cluster sampling was utilised. Although this is a limitation of the study, it improved the feasibility of the study. The cluster effect was not assessed in this study and should be subjected to further analysis.
(3) The validity and reliability of the additional questions and options were not formally tested and established. However as the primary aim was to describe teachers' attitudes, determining the validity and reliability of the additional questions and options was not a main priority.
(4) A multinomial analysis was not conducted due to the large amount of information obtained. Future studies may aim to consider the impact of school units and the effects of multiple factors on attitude scores.

5.6 Critique of the POSHA-S

The POSHA-S was a good instrument for gaining a general idea of teachers' attitudes toward stuttering. As researchers are able to compare current international studies, the results can be contextualised in terms of how similar or different attitudes are universally. By being able to compare to negative, neutral and positive attributes, the researcher is able to determine how stuttering is viewed within a target population. Although the POSHA-S has a number of benefits, many difficulties were noted during the data analysis process. The questionnaire had questions which were not analysed in the majority of studies conducted e.g. information on teachers' priorities and health status were not utilised. For ordinal data, the mode is the most appropriate measure of central tendency but in the case of the POSHA-S, mean scores are used. Arbitrary components, subscores and overall scores were used. Based on the scores, researchers are not able to draw conclusions as highlighted by the following example: for the Potential component, one cannot say that teachers in the higher quintile thought that PWS had more *potential* than those in the lower quintile. In the database, relatively small samples were

used (i.e. 50 participants or less). The database also made use of all three versions of the POSHA, which had different items and scales.

The majority of scores from the participants from this study fell within the interquartile range. This may be due to the fact that POSHA-S uses mean scores for the entire sample. The current study used a sample size which was relatively large compared to the median sample size of the studies in the database archive (i.e. 51). With larger sample sizes (as with the current study), the mean of the sample means will be closer to the population mean and the distribution of all the sample means will be less dispersed (Blaikie, 2003). As a result, it would be expected that the majority of the scores for the South African sample would be close to the mean scores for all the POSHA-S samples.

5.7 Future Research

Future research may consider the following:

1. Further modifications to be made to the POSHA-S based on the comments during the main study to make it more applicable to the South African population. For example, changing the date of birth and date of completion of the questionnaire to the day, month, year format used in South Africa; changing wording i.e., native to first language, changing acquaintance etc.
2. Differences may not only be present amongst different quintiles, but also within each school setting. Future research may conduct a cluster analysis to compare attitudes toward stuttering across schools to determine if the school environment, and the values the school endorses, has an impact on attitudes of teachers working within that environment. A needs analysis may be essential when planning intervention as the results highlight a potential difference in attitudes across quintiles. The composition of each community may dictate the type of information needed within a teacher professional development programme and may provide insight into how receptive teachers will be towards stuttering, as well as implementing classroom-based interventions.
3. Focus on a qualitative analysis of teachers' attitudes to gain a more in-depth understanding, not only of what attitudes and reactions teachers have toward stuttering, but also the important element of why.
4. A further step in understanding attitudes may be to consider the interaction between demographic factors. Following on from the univariate analysis, future studies may consider conducting multinomial analysis. The current study did not perform a multinomial analysis as

little is known about the different demographic factors and therefore decisions about the inclusion or grouping of factors would be guesswork.

5. The current study only concentrated on an urban population. Future research could determine the attitudes of teachers in rural areas toward stuttering. Doody et al. (1993) conducted a study to determine attitudes toward a hypothetical PWS and a fluent speaker in three rural communities in Newfoundland. It was hypothesised that participants would be more accepting of a PWS due to the tight-knit nature of the community. It was found that participants perceived PWS more negatively than the person who did not stutter. The result of the study shows that there could be differences in attitudes between urban and rural communities and that future studies may look to determine what these differences are.
6. The demographic factor, teaching phase, may be important when comparing primary and high school teachers. During a child's primary years (i.e. grades1-5) performance is highly dependent on oral communication compared to elementary grades (i.e. grades 6-8) where reading and writing are more essential. As the child enters high school these demands steadily increase. As a result the effects of stuttering on the academic performance of a CWS may be more prominent during their primary schooling years. If there are differences in attitudes between primary and high school teachers, professional development programmes may target teachers separately, depending on the phase of learners that they teach.

5.8 Conclusion

The current study found that teachers generally held positive attitudes towards PWS, specifically related to the potential of the PWS and their own classroom management strategies. When compared to the POSHA-S database archive, the overall stuttering score indicated that the South African sample had slightly more positive attitudes than respondents in the POSHA-S database. Although the result is encouraging, it is important to understand that the sample was not homogeneously positive. The results highlight that there are still a substantial number of teachers who hold negative attitudes toward stuttering. On further exploration of the selected demographic factors, no significant results were found in teachers' attitudes across the teaching phases. Significant results were found between teachers of higher and lower quintile schools, teachers of different language backgrounds and ages, gender and years of teaching experience to various components, subscores and Overall Stuttering Score of the POSHA-S.

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Appendices

Appendix A – Composition of the POSHA database archive

The current database archive (circa August 2014) consisted of 10,174 participants representing 36 countries and 22 languages. Below is a list of the countries, languages and professions which contributed to the database. The database includes all three versions of the POSHA-S (i.e. the quasi-continuous scale, POSHA-E, final POSHA-S).

Countries	**Languages**	**Professions**
USA	English	Students
Canada	French	Public
Nicaragua	Spanish	Public
Brazil	Brazilian Portuguese	Adult stutterers
Bulgaria	Bulgarian	Family members of stutterers
Russia	Russian	Friends of stutterers
Turkey	Turkish	ASHA certified SLTs
Kuwait	Arabic	Board recognised specialists in fluency
Syria	Farsi (Persian)	Parents of school children
Lebanon	Hindi	Stuttering self-help leaders
Iran	Kannada	Grandparents of 6th grade pupils
Cameroon	Simplified Chinese	Neighbours of 6th grade pupils
South Africa	Polish	Teachers
Nepal	Norwegian	Food/hospitality service workers
India	Bosnian-Serbian-Croatian	Professors
China	German	Mid socioeconomic status
Poland	Croatian	High socioeconomic status
Denmark	Sinhala	Medical personnel
Norway	Italian	Manufacturing employees
UK	Swedish	Broadcasting employees
Ireland	European Portuguese	Mental health professionals
Bosnia-Herzegovina	Dutch	Health care professionals
Germany		Law enforcement professionals
Jordan		Career counsellors
Croatia		
Sri Lanka		
Puerto Rico		
Italy		
Sweden		
Sudan		
Portugal		
Saudi Arabia		
Spain		
Malta		
Belgium (Flanders)		
Netherlands		

Appendix B – Questionnaire

Instructions

Dear participant,

Thank you for agreeing to participate in this research project designed to explore public opinion about a number of human attributes and characteristics in various places around the world. The following survey asks for your honest opinions about five different human attributes and some information about yourself to help in interpreting the results from many people. The survey also asks for more detailed opinions about one of the human attributes.

Please do not write your name, address, or telephone number anywhere on the survey. It is important that your name is not included so complete confidentiality can be maintained.

Completely filled-out surveys will help provide a clearer picture of public opinion. Nevertheless, as you fill out the survey, you are free to omit any items or stop responding for any reason, without any prejudice or penalty.

The survey asks for a few written short answers and for checking boxes [□] that apply to you. But mostly it involves making judgments by **drawing a circle around** your answer. Some of these judgments are numbers on number scales, while others are 'Yes,' 'No,' or 'Not sure' choices. There are no right or wrong answers! *We ask you to work quickly and mark your first impression*. Please do not go back and change any of your responses unless you later discover that you did not understand an item or that you answered on the wrong line.

When you give your opinion, be sure to **draw a small circle** around the number, '?,' or word that **best represents your opinion**. On the number scales, you may circle any number, but feel free to mark the extreme negative or positive ends of the scale as well as the exact middle if one of those best shows your opinion. When you check a box, please put a small ✔ in the box [□].

Following are four examples. The first one shows someone's fairly positive opinion about being *tall*, the second, a very negative opinion about being *short*, neutral about *wearing glasses*, and either has no opinion or knows nothing about *wearing a hearing aid.*

My general impression of a person who…	**Very negative**	**Somewhat negative**	**Neutral**	**Somewhat positive**	**Very positive**	**Not sure**
is tall	**1**	**2**	**3**	**4**	**5**	**?**
is short	**1**	**2**	**3**	**4**	**5**	**?**
wears glasses	**1**	**2**	**3**	**4**	**5**	**?**
wears a hearing aid	**1**	**2**	**3**	**4**	**5**	**?**

Thank you very much for your help.

Public Opinion Survey of Human Attributes-Stuttering (POSHA-S)

Please tell about yourself in this section.

Dates:	**Month**	**Day**	**Year**
Today's date is:	e.g., January	e.g., 23	e.g., 2011
The date I was born was:			

Residence and Citizenship	**Country**	**State (or Province)**	**City (or Town, Village, Region)**
I now live in:			
I was born in:			

Check [□] all that apply

I am: □ Male □Female	**I am/have been married:** □ Yes □ No	**I am/was a parent:** □ Yes □No

I have <u>completed</u> the following school levels:

□ Primary (elementary) school (5-6 years total)	□ 2-year diploma (about 14 years total)
□ Middle (junior high) school (7-9 years total)	□ 4-year university degree (about 16 years total)
□ High school (11-13 years total)	□ Masters or similar degree (about 18 years total)
□ Trade/military/technical/other school	□ Doctoral/professional degree (>18 years total)
	□ Other

My job or work situation now is…

□ Student in school or university	□ Unemployed or not working
□ Working	□ Retired

The job that I am best trained to do, or the job I worked at the longest, is (was):

_____

How long have you been working as a teacher?

_____

What grade do you teach?

_____

How many children are currently in your class?

_____

My native language is: _____

I can also **easily understand and speak** the following languages:

1. _____	2. _____	3. _____

Circle the number beside each characteristic

My family's income is […] compared to the yearly incomes of…	**Among the lowest**		**About average**		**Among the highest**	**Not sure**
my family's friends and relatives	**1**	**2**	**3**	**4**	**5**	**?**
all people in my country	**1**	**2**	**3**	**4**	**5**	**?**

I would rate the following <u>aspects of my life now</u> as…	**Very poor**	**Poor**	**Average**	**Good**	**Excellent**	**Not sure**
my physical health	**1**	**2**	**3**	**4**	**5**	**?**
my mental health	**1**	**2**	**3**	**4**	**5**	**?**
my ability to learn new things	**1**	**2**	**3**	**4**	**5**	**?**
my speaking ability	**1**	**2**	**3**	**4**	**5**	**?**

For me, the <u>importance (or priority)</u> of each of these aspects in my life is …	**Never important**	**Usually <u>not</u> important**	**Equally important or not important**	**Usually important**	**Always important**	**Not sure**
being safe and secure	**1**	**2**	**3**	**4**	**5**	**?**
being free to do what I want	**1**	**2**	**3**	**4**	**5**	**?**
spending quiet time alone	**1**	**2**	**3**	**4**	**5**	**?**
attending parties or social events	**1**	**2**	**3**	**4**	**5**	**?**
imagining new things	**1**	**2**	**3**	**4**	**5**	**?**
helping the less fortunate	**1**	**2**	**3**	**4**	**5**	**?**
having exciting but potentially ‘dangerous’ experiences	**1**	**2**	**3**	**4**	**5**	**?**
practicing my religion	**1**	**2**	**3**	**4**	**5**	**?**
earning money	**1**	**2**	**3**	**4**	**5**	**?**
doing my jobs or my duty	**1**	**2**	**3**	**4**	**5**	**?**
getting things finished	**1**	**2**	**3**	**4**	**5**	**?**
figuring out how to solve important problems	**1**	**2**	**3**	**4**	**5**	**?**

Now, please give us your opinions about people with all the characteristics listed.

My overall impression of a person who…	Very negative	Somewhat negative	Neutral	Somewhat positive	Very positive	Not sure
is obese (much overweight)	-2	-1	0	+1	+2	?
is left handed	-2	-1	0	+1	+2	?
has a stuttering condition	-2	-1	0	+1	+2	?
is mentally ill	-2	-1	0	+1	+2	?
is intelligent	-2	-1	0	+1	+2	?

I would want to be a person who…	Strongly Disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Not sure
is obese (much overweight)	-2	-1	0	+1	+2	?
is left handed	-2	-1	0	+1	+2	?
has a stuttering condition	-2	-1	0	+1	+2	?
is mentally ill	-2	-1	0	+1	+2	?
is intelligent	-2	-1	0	+1	+2	?

The amount I know about people who…	None	A little	Some	A lot	A great deal	Not sure
are obese (much overweight)	1	2	3	4	5	?
are left handed	1	2	3	4	5	?
have a stuttering condition	1	2	3	4	5	?
are mentally ill	1	2	3	4	5	?
are intelligent	1	2	3	4	5	?

Following are people I have known who… (Check [□] all that apply)	**Nobody**	**Acquaintance**	**Close Friend**	**Relative**	**Me**	**Other**
are obese (much overweight)	□	□	□	□	□	□
are left handed	□	□	□	□	□	□
has a stuttering condition	□	□	□	□	□	□
is mentally ill	□	□	□	□	□	□
is intelligent	□	□	□	□	□	□

Now, please give us more detailed opinions about the condition of stuttering.

Do you stutter?

Yes	No

Do you know someone who stutters?

Yes	No

Is there currently anyone in your classroom that stutters?

Yes	No

People who stutter…			**Not sure**
should try to hide their stuttering	**Yes**	**No**	**?**
should have jobs where they have to correctly understand and decide important things	**Yes**	**No**	**?**
are nervous or excitable	**Yes**	**No**	**?**
are shy or fearful	**Yes**	**No**	**?**
have themselves to blame for their stuttering	**Yes**	**No**	**?**
can make friends	**Yes**	**No**	**?**
can lead normal lives	**Yes**	**No**	**?**
can do any job they want	**Yes**	**No**	**?**

If the following people stuttered, I would be concerned or worried…			**Not sure**
my doctor	**Yes**	**No**	**?**
my neighbour	**Yes**	**No**	**?**
my brother or sister	**Yes**	**No**	**?**
student	**Yes**	**No**	**?**
Me	**Yes**	**No**	**?**

If I were talking with a person who stutters, I would…			**Not sure**
try to act like the person was talking normally	**Yes**	**No**	**?**
make a joke about stuttering	**Yes**	**No**	**?**
fill in the person's words	**Yes**	**No**	**?**
feel impatient (not want to wait while the person stutters)	**Yes**	**No**	**?**
feel comfortable or relaxed	**Yes**	**No**	**?**
feel pity for the person	**Yes**	**No**	**?**
tell the person to 'slow down' or 'relax'	**Yes**	**No**	**?**
tell the person to think before he/she speaks	**Yes**	**No**	**?**
speak calmly and slowly to the person	**Yes**	**No**	**?**
tell the person to take a deep breath	**Yes**	**No**	**?**

I believe stuttering is caused by…			**Not sure**
genetic inheritance	**Yes**	**No**	**?**
ghosts, demons, or spirits	**Yes**	**No**	**?**
Witch craft, ancestors	**Yes**	**No**	**?**
a very frightening event	**Yes**	**No**	**?**
an act of God	**Yes**	**No**	**?**
learning or habits	**Yes**	**No**	**?**
a virus or disease	**Yes**	**No**	**?**

If I had a child in the classroom that stutters, I would...			Not sure
excuse the student from talking in front of the class	**Yes**	**No**	**?**
not be sure how to react	**Yes**	**No**	**?**
praise the student for performing well in class	**Yes**	**No**	**?**
not do anything special	**Yes**	**No**	**?**
talk to student about his/her stutter	**Yes**	**No**	**?**
talk to class about student's stutter	**Yes**	**No**	**?**
praise the student when he/she speaks well	**Yes**	**No**	**?**

Do you think that stuttering is a problem?

Yes	No

I believe stuttering should be helped by…			Not sure
other people who stutter	**Yes**	**No**	**?**
a speech and language therapist	**Yes**	**No**	**?**
people like me	**Yes**	**No**	**?**
traditional healer	**Yes**	**No**	**?**
a medical doctor	**Yes**	**No**	**?**

My knowledge about stuttering comes from…			**Not sure**
personal experience (me, my family, friends)	**Yes**	**No**	**?**
television, radio, or films	**Yes**	**No**	**?**
magazines, newspapers, or books	**Yes**	**No**	**?**
the Internet	**Yes**	**No**	**?**
School	**Yes**	**No**	**?**
doctors, nurses, or other specialists	**Yes**	**No**	**?**

Would you like more assistance with managing children who stutter?

_____

Is there anything else you would like to add?

_____

Will it be fine with you if we contact you later on for a further discussion of this interview?

Yes	No

Contact number: _____

You have finished! Thank you very much.

How long did it take you to fill out the survey? _____ Minutes

Appendix C – Modifications to POSHA-S

The POSHA-S includes: a demographic section; a general section where participants are required to provide their opinions on stuttering and four other human attributes; and the final section is based solely on attitudes toward stuttering (St. Louis, 2012). The following changes were made to suit the South African context:

(1) in the demographics section, *years of experience as a teacher*, was included so that the researcher could potentially determine if there is a correlation between years of experience and attitudes;

(2) *What grade do you teach?* was included so that teachers in foundation phase (i.e. grades 1-3) could be compared to those in the intermediate phase (i.e. grades 4-7);

(3) *How many children are currently in your class?* was also included;

(4) the question related to family income may be adapted as per the current census questionnaire as comparisons or classifications based on other family's income may not be feasible;

(5) *witchcraft* and *ancestors* was included in the question related to causation of stuttering, as in the isiXhosa culture, spiritual influences are predominant (Legg & Penn, 2013);

(6) *traditional healers* were included as an option under where one would seek help from as many isiXhosa speakers consult traditional healers (Legg & Penn, 2013);

(7) D*o you stutter?,* was included in the questionnaire as it may affect how the person views PWS;

(8) *Do you know someone who stutters?,* was included as familiarity with stuttering may have an effect on how someone views PWS;

(9) *Do any children currently in your class stutter?* was added as it might provide relevant insight into what is currently occurring in the school system;

(10) *student* was included in the question related to whether the participant would be worried if the person stuttered as it may determine whether a teacher refers a student or not;

(11) *stuttering disorder* was replaced by *stuttering condition* as it is not clear whether people in the community view stuttering as a disorder or not;

(12) a question related to the way in which teachers manage stuttering in the classroom were included as teachers' attitudes are related to how they will react to stuttering. Similarly to Abdalla and St. Louis (2012), questions were chosen and modified from Crowe and Walton (1981), Yeakle and Cooper (1986) and Heite (2000);

(13) further options were incorporated into the question related to reactions to stuttering;

(14) W*ould you like more assistance with managing children who stutter* was included to determine whether teachers' feel there is a need for intervention. It further serves to assist future research in developing resources to use in the classroom setting, as teacher motivation is crucial.

(15) for the question related to referral for stuttering, it is unclear whether teachers believe that stuttering is a problem, therefore the question was posed.

(16) the participants were asked if they would like to add anything so that teachers are able to provide any extra information they feel the questionnaire may have missed.

(17) participants were asked if they would be willing to further contribute to the study as the researchers may want to conduct focus groups in the future in order to gain a deeper understanding of why teachers hold certain views toward stuttering.

(18) questions related to race and religion was omitted due to the sensitive nature of the topic, especially within the South African context.

Appendix D – Ethics Approval from the Health Sciences Faculty Human Research Ethics Committee

Appendix Removed due to visible signature

Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP) and Declaration of Helsinki guidelines.
The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

Appendix E – Approval to conduct research at schools from the Department of Education

Western Cape Government
Education

Directorate: Research

Audrey.wyngaard2@pgwc.gov.za
tel: +27 021 467 9272
Fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20130913-17457
ENQUIRIES: Dr A T Wyngaard

Miss Kristen Abrahams
35 Bayview Road
Hout Bay Height
Hout Bay
7806

Dear Miss Kristen Abrahams

RESEARCH PROPOSAL: A SURVEY OF PRIMARY SCHOOL TEACHERS' OPINIONS ON STUTTERING IN TWO URBAN DISTRICTS IN THE WESTERN CAPE

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **20 January 2014 till 31 March 2014**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

    The Director: Research Services
    Western Cape Education Department
    Private Bag X9114
    CAPE TOWN
    8000

We wish you success in your research.

Kind regards.
Signed: Dr Audrey T Wyngaard
Directorate: Research
DATE: 15 January 2014

Appendix F – Information Letter for Participants

UNIVERSITY OF CAPE TOWN

School of Health & Rehabilitation Sciences
Division of Communication Sciences & Disorders
F46 Old Main Building. Groote Schuur Hospital, Observatory, 7925
Telephone: 021 406 6402
Fax: 021 406 6323

Dear Sir/Madam

Participation in a study addressing teachers' opinions on stuttering

I am a masters student conducting research in the Division of Communication Sciences and Disorders at the University of Cape Town. There is currently no information about teachers' views on stuttering and in order to assist with the development of resources and interventions, understanding what teachers think about stuttering is highly important. Through understanding attitudes toward stuttering, speech therapist may work alongside teachers to understand and manage stuttering in the classroom. The current study aims to gain an understanding of the teachers' attitude toward stuttering in the Metro East and Metro Central education districts. The research looks to determine if there are differences in opinions of teachers in foundation and intermediate phases and also between 'no fee paying' and better resourced schools. Through determining the opinions of primary school teachers toward stuttering in these two educational districts, it may improve service delivery in the area. Only teachers who are aware of what stuttering is will be eligible to participate in the study.

You are hereby invited to participate in this study which requires you to complete a questionnaire, *The Public Opinion Survey on Human Attributes-Stuttering* (POSHA-S). The principal of the school will be contacted and a date and time which will suit all participants will be arranged, during school hours. I anticipate that it will take you approximately 10 to 15 minutes to complete.

My research proposal has been approved by the Faculty of Health Sciences, Human Research Ethics Committee - study approval number is XXX.

Participation in this study will not benefit you directly nor cause you discomfort or harm in any way. After completing the questionnaire, if you would like further information about stuttering, it will be made available to you, as per your request. As I will not be collecting any identifying information on you, your confidentiality will be respected at all times, and I will not identify you in any publication of the study.

Participation in this study is voluntary and you may withdraw from this study at any time, without penalty and without having to give a reason for doing so. A copy of the results will be made available should you so wish.

We thank you for your time and consideration.

Yours faithfully,

Kristen Abrahams, (abrkri002@myuct.ac.za, 0731076524)

Should you have any questions, please do not hesitate to contact me at the above details or my supervisor A/Prof. Harsha Kathard: harsha.kathard@uct.ac.za (w) 021 406 6401

If you have any concerns about the ethics of the study, please contact Prof. Marc Blockman (Chairperson of Research Ethics Committee): (w) 021 406 6496 or at marc.blockman@uct.ac.za

Please sign the consent form indicating your wish to participate in the study.

Appendix G – Informed Consent Form

UNIVERSITY OF CAPE TOWN

School of Health & Rehabilitation Sciences
Division of Communication Sciences & Disorders
F46 Old Main Building. Groote Schuur Hospital, Observatory, 7925
Telephone: 021 406 6402
Fax: 021 406 6323

Informed Consent Form

I, _____ (*full name in print*) have read the information letter and understand my rights as a research participant. I understand what my participation in this study entails and have had an opportunity to ask questions and have these answered. I am aware that I may withdraw from the study at any time if I so wish, without having to provide an explanation. Withdrawal from the study will have no negative implications for me. I voluntarily consent to participate in this study.

Participant's Signature: _____ Date: _____

Researcher's Signature: _____ Date: _____

Should you have any questions please do not hesitate to contact us (see details on information letter) or my supervisor:

A/Prof. Harsha Kathard: harsha.kathard@uct.ac.za (w): (021) 406 6401

Appendix H – Demographic details of teachers in higher vs. lower quintile

	Quintile			
	Higher		Lower	
	Mean	Count (%)	Mean	Count (%)
Age	44.97		45	
Years of teaching experience	20.5		16.3	
Gender				
Female		205 (80.7)		147 (75)
Male		49 (19.3)		49 (25)
First Language				
Afrikaans		111 (42)		2 (1)
English		120 (45.5)		8 (3.9)
IsiXhosa		10 (3.8)		171 (83.4)
Other		23 (8.7)		24 (11.7)
Do you stutter?				
No		249 (96.1)		182 (94.3)
Yes		10 (3.9)		11 (5.7)
Do you know some who stutters?				
No		32 (12.4)		42 (21.6)
Yes		227 (87.6)		153 (78.4)
Is there currently anyone in your classroom that stutters?				
No		185 (70.9)		152 (79.2)
Yes		76 (29.1)		40 (20.8)

Appendix I – Graphs and Tables depicting the distribution of results for each demographic factor

Quintile

Accommodating/Helping component.

Table I1

Frequency distribution of mode score for Accommodating/Helping component across each quintile

Quintile	Accommodating/Helping mode score			Total
	1	3	5	
Higher quintile	15	2	246	263
Lower quintile	38	7	142	187
Total	53	9	388	450

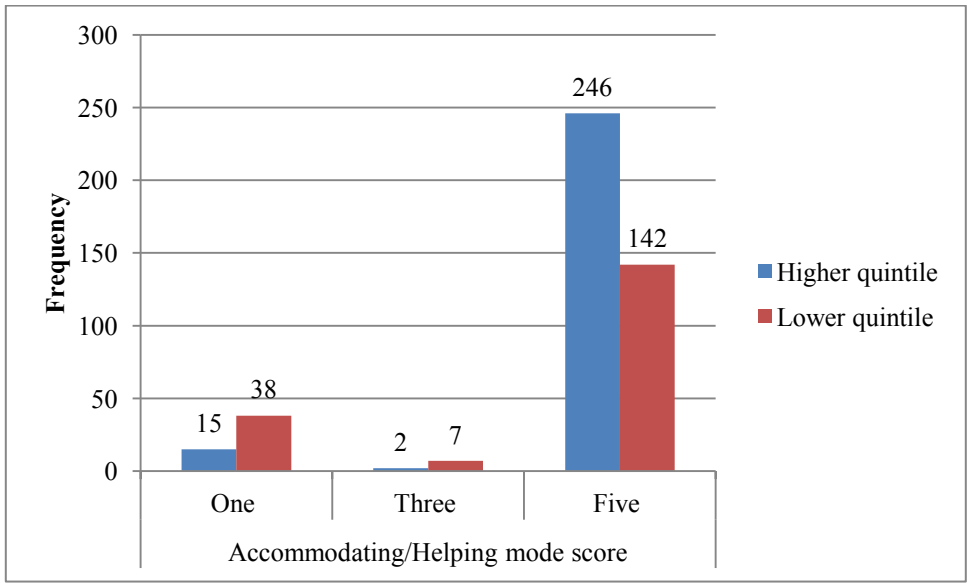

Figure I1. Graphical distribution of results for Accommodating/Helping component and quintile.

Social Distance/Sympathy component.

Table I2

Frequency distribution for Social Distance/Sympathy mode score across quintile

Quintile	Social Distance/Sympathy mode score				Total
	1	2	3	5	
Higher quintile	57	0	8	199	264
Lower quintile	66	1	16	115	198
Total	123	1	24	314	462

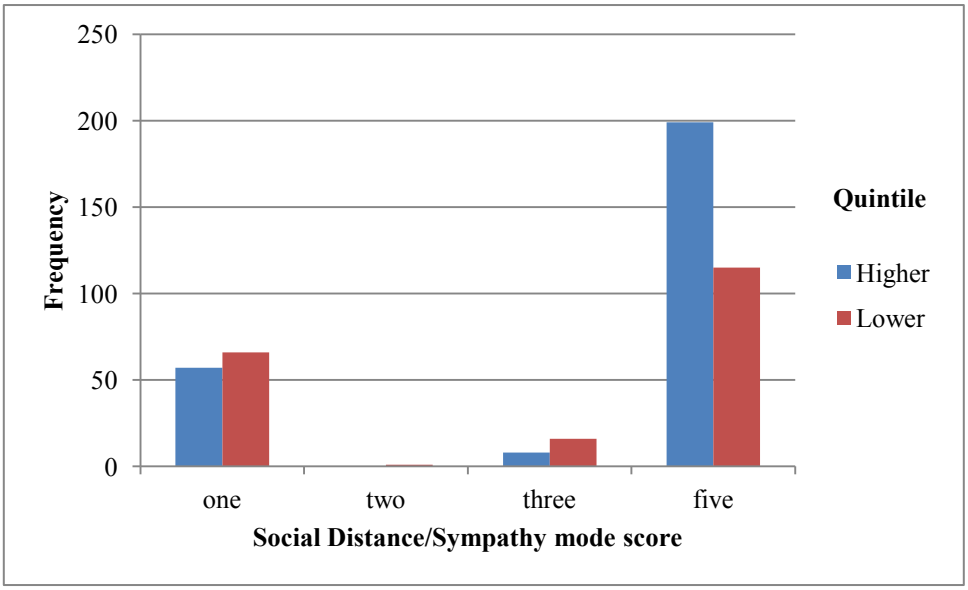

Figure I2. Graphical distribution of results for Social Distance/Sympathy mode vs. quintile

Years of teaching experience

Histogram depicting distribution.

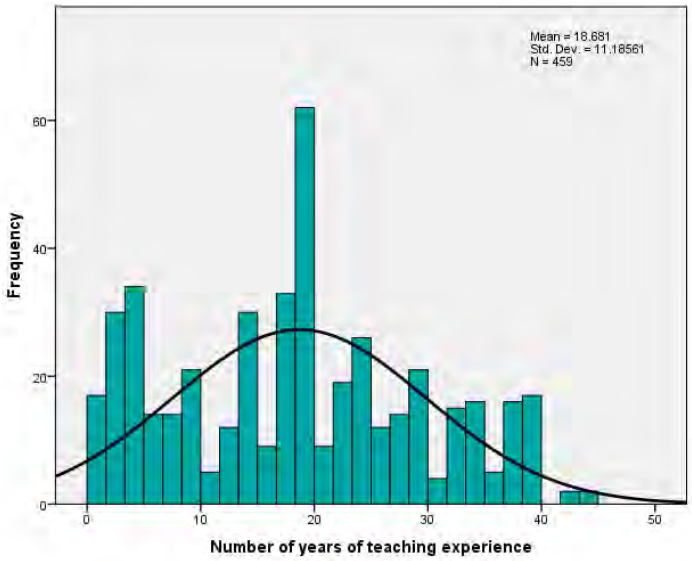

Figure I3. Histogram depicting the distribution of number of years of teaching experience (N=459)

Is stuttering a problem?.

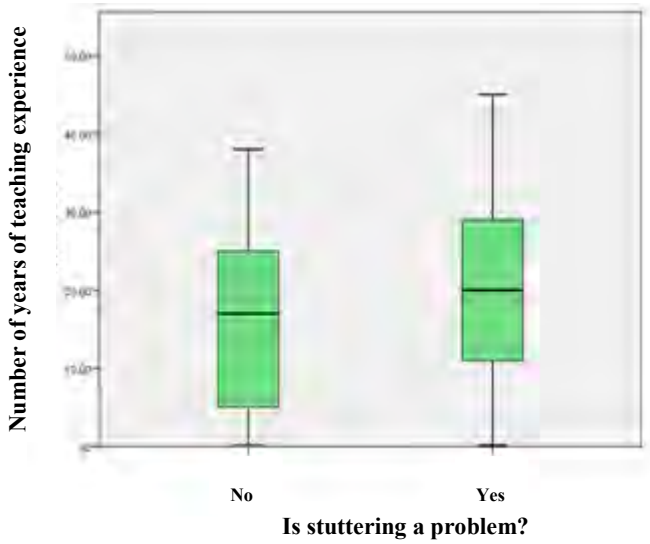

Figure I4. Box-plot graph illustrating the distribution of results for years of teaching experience and whether stuttering is a problem

Age

Histogram depicting distribution.

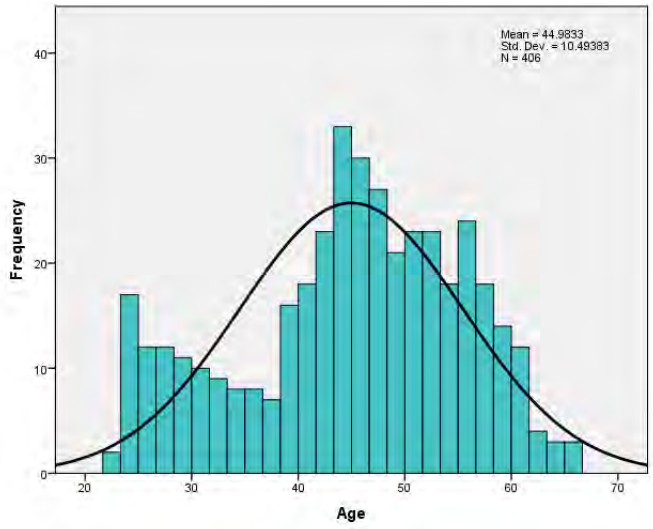

Figure I5. Histogram depicting the distribution of age for the sample (N=406)

Is stuttering a problem?.

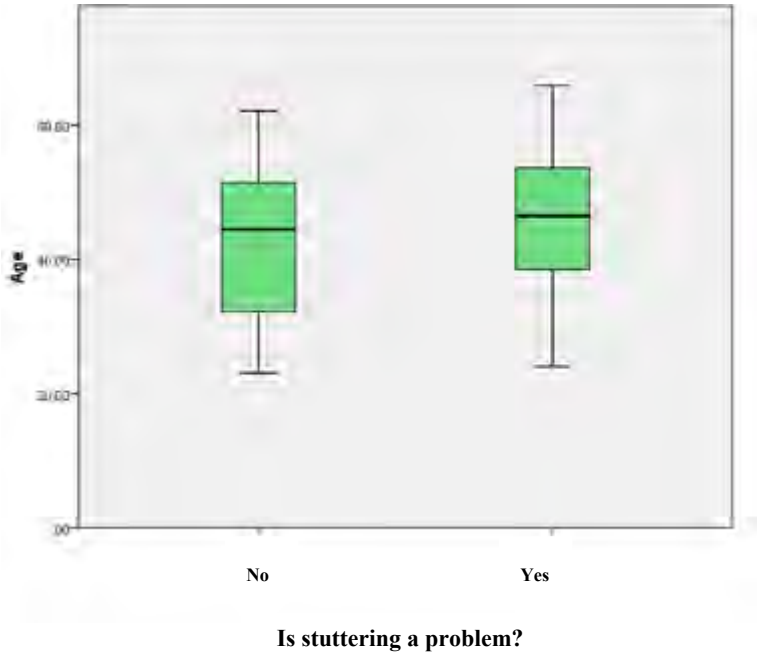

Figure I6. Box-plot graph illustrating the distribution of results for age and whether stuttering is a problem

Gender

Cause component.

Table I3

Frequency distribution of mode score for Cause component across gender

Gender	Cause mode score			Total
	1	3	5	
Female	24	68	239	331
Male	4	9	79	92
Total	28	77	318	423

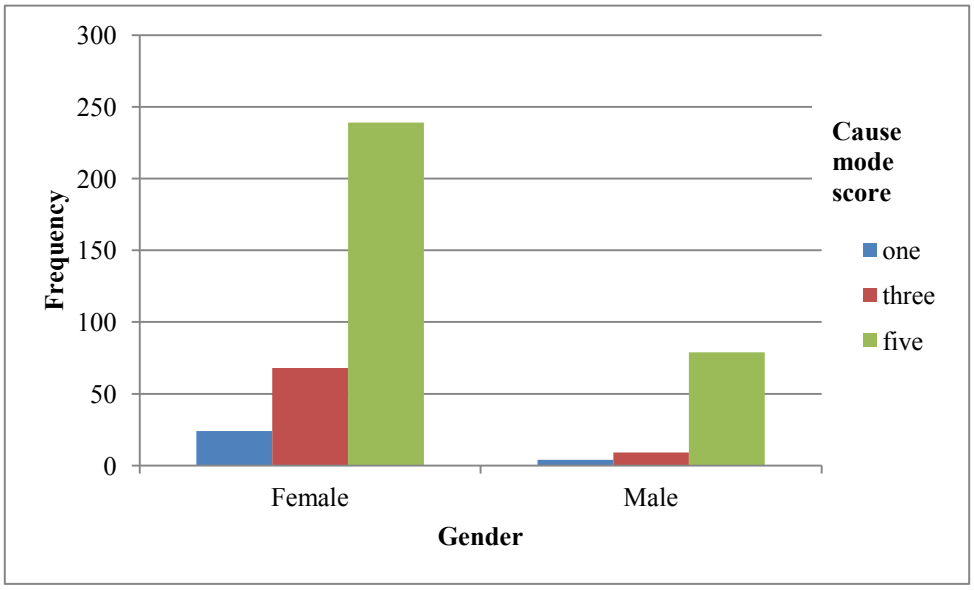

Figure I7. Graphical distribution of results for Cause component and gender

Knowledge/Experience component.

Table I4

Distribution of results for the mode score of Knowledge/Experience component and gender

Gender	Knowledge/Experience mode score					Total
	1	2	3	4	5	
Female	65	35	118	89	36	343
Male	12	3	40	24	18	97
Total	77	38	158	113	54	440

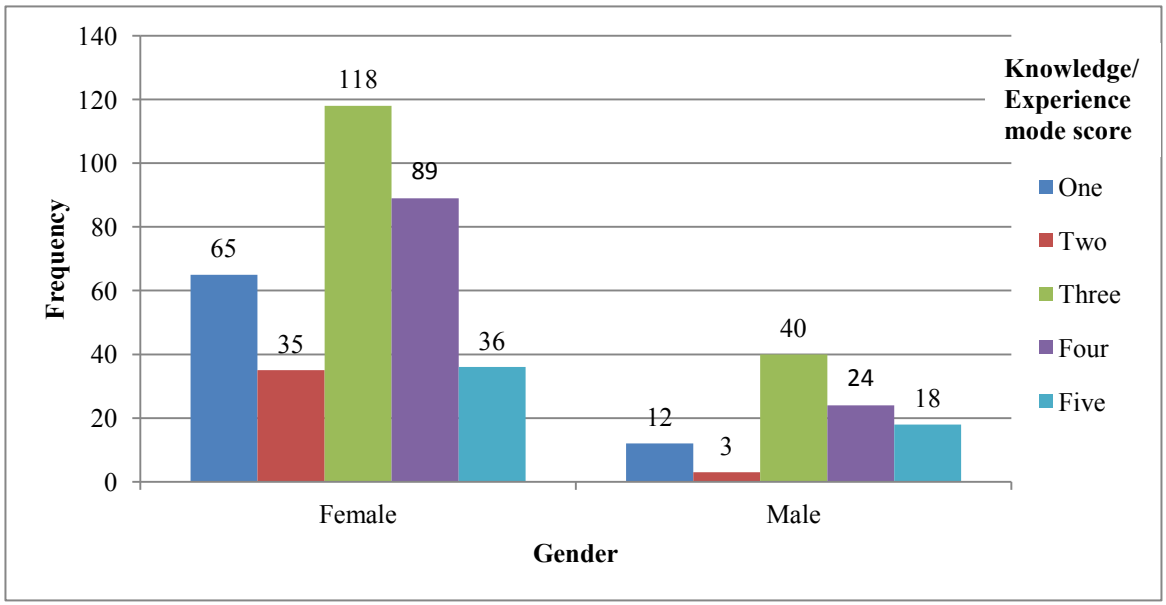

Figure I8. Graphical distribution of results for Knowledge/Experience component and gender

First language

Traits/Personality component.

Table I5

Frequency distribution of mode score for Traits/Personality component for first language

First language	Traits/Personality mode score				Total
	1	3	4	5	
Afrikaans	70	16	0	26	112
English	53	17	0	58	128
IsiXhosa	65	30	2	70	167
Other	13	12	0	19	44
Total	201	75	2	173	451

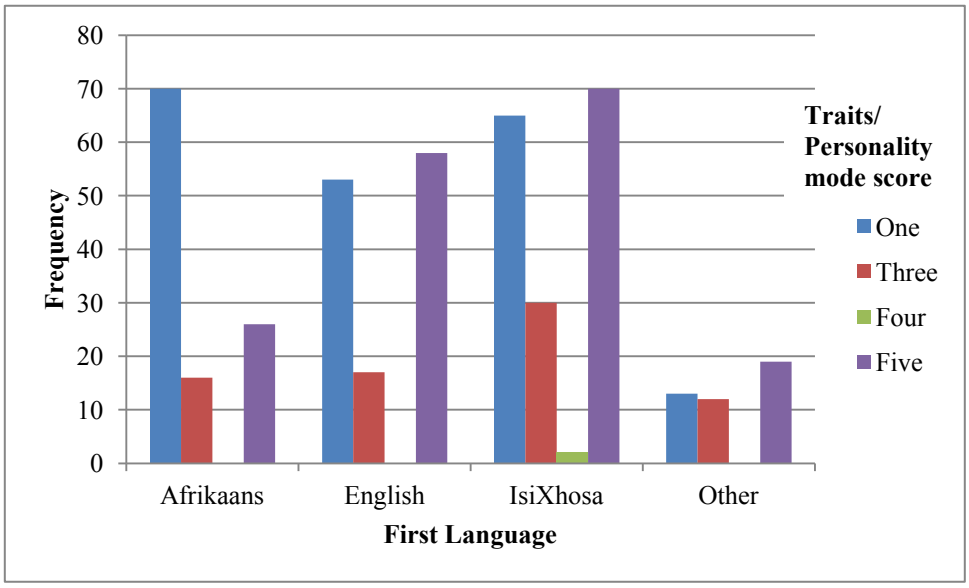

Figure I9. Graphical distribution of results for Traits/Personality component compared to first language

Social Distance/Sympathy component.

Table I6

Frequency distribution of mode score for Social Distance/Sympathy component for first language

First language	Social Distance/Sympathy mode score				Total
	1	2	3	5	
Afrikaans	32	0	4	77	113
English	20	0	3	104	127
IsiXhosa	61	0	13	102	176
Other	10	1	4	31	46
Total	123	1	24	314	462

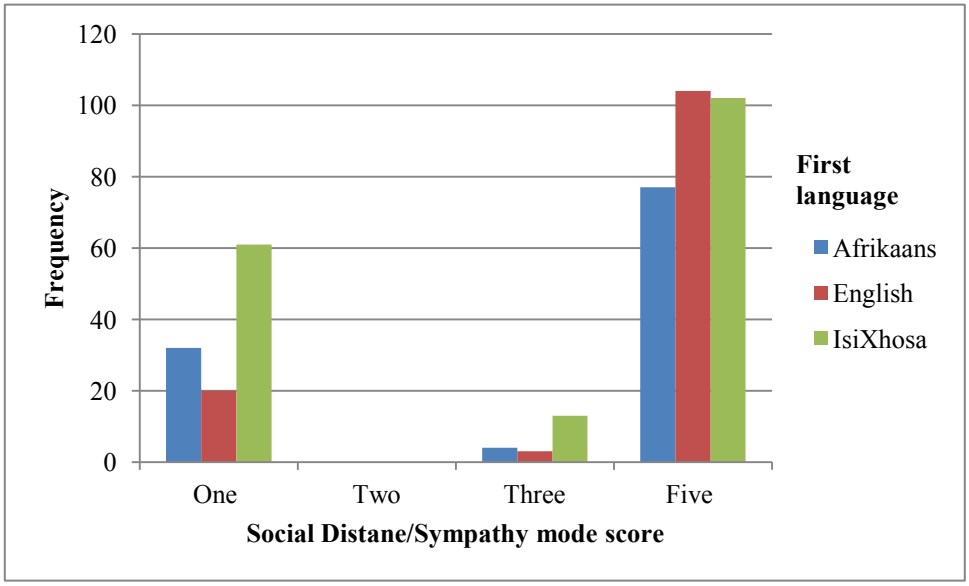

Figure I10. Graphical distribution of results for Social Distance/Sympathy component and first language

Accommodating/Helping component.

Table I7

Frequency distribution of mode score for Accommodating/Helping component for first language

First language	Accommodating/Helping mode score			Total
	1	3	5	
Afrikaans	9	1	102	112
English	3	0	125	128
IsiXhosa	32	7	128	167
Other	9	1	33	43
Total	53	9	388	450

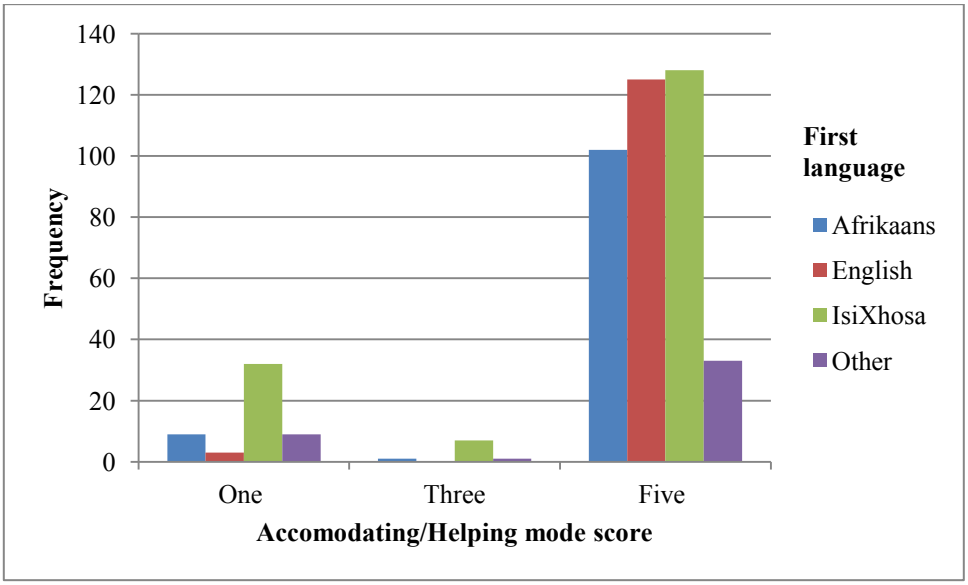

Figure I11. Graphical distribution of results for Accommodating/Helping component mode score and first language

Exposure/Familiarity

Overall Stuttering Score.

Table I8

Frequency distribution of mode score for Overall Stuttering Score versus knowing someone who stutters.

Do you know someone who stutters/class?	Overall Stuttering Score mode scores			Total
	1	3	5	
No	16	7	45	68
Yes	44	12	328	384
Total	60	19	373	452

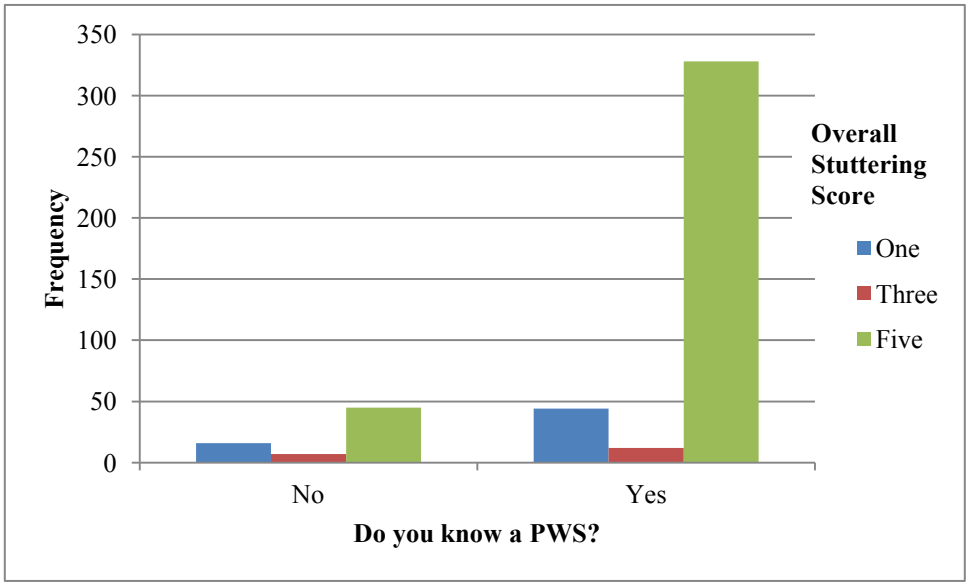

Figure I12. Graphical distribution of results for the Overall Stuttering Score vs. knowing someone who stutters

Beliefs about Stuttering subscore.

Table I9

Frequency distribution of mode score for Beliefs about Stuttering subscore versus knowing someone who stutters

Do you know someone who stutters/class?	Beliefs about Stuttering mode score			Total
	1	3	5	
No	2	10	54	66
Yes	10	18	353	381
Total	12	28	407	447

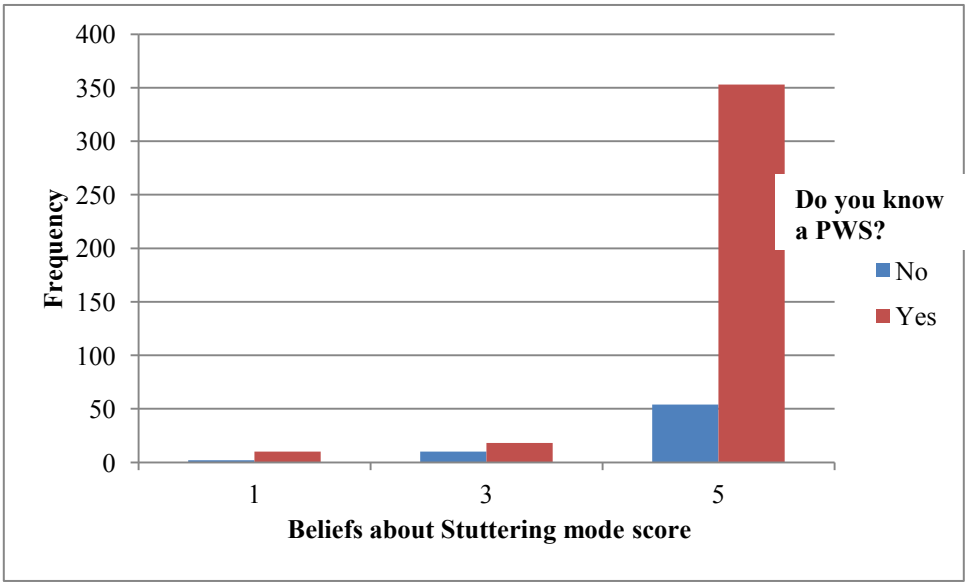

Figure 113. Graphical distribution of results for Beliefs about Stuttering subscore vs. knowing someone who stutters

Self-Reactions to Stuttering subscore.

Table I10

Frequency distribution of mode score for Self-Reactions to Stuttering subscore versus knowing someone who stutters

Do you know someone who stutters/class?	Self-Reactions to Stuttering mode scores					Total
	1	2	3	4	5	
No	21	0	5	1	41	68
Yes	73	1	9	0	301	384
Total	94	1	14	1	342	452

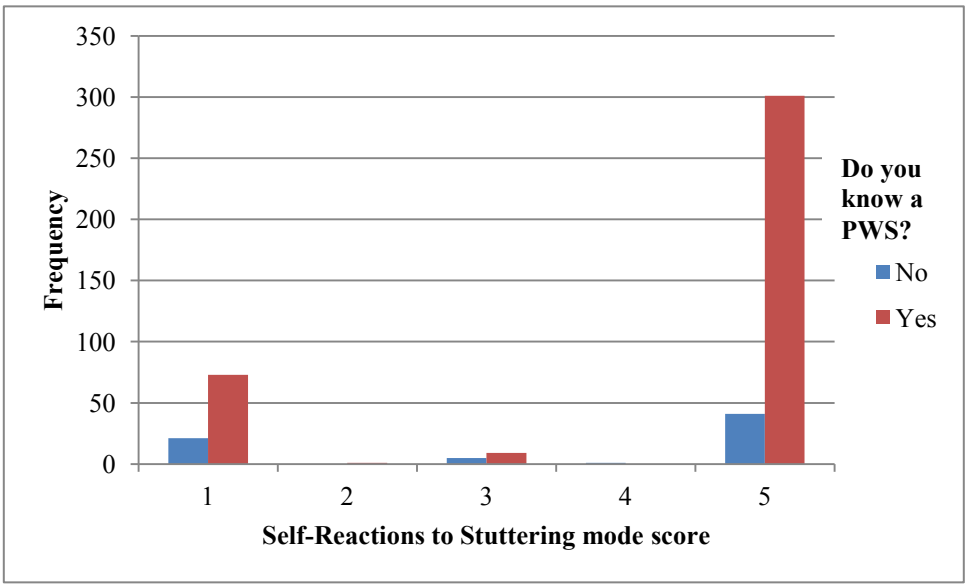

Figure I14. Graphical distribution of results for Self-Reactions to Stuttering subscore vs. knowing someone who stutters

Potential component.

Table I11

Frequency distribution of mode score for Potential component versus knowing someone who stutters

Do you know someone who stutters/class?	Potential mode score			Total
	1	3	5	
No	4	6	56	66
Yes	13	3	363	379
Total	17	9	419	445

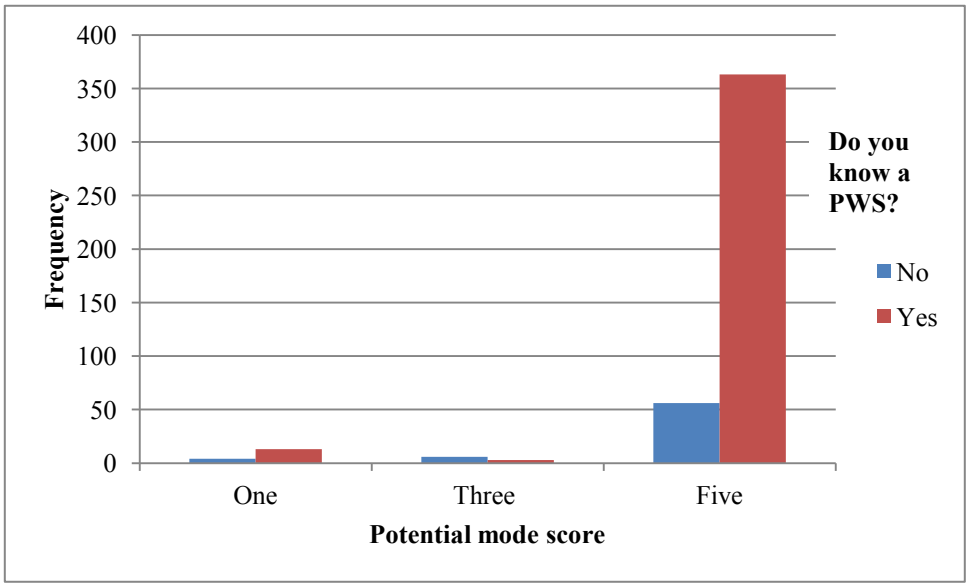

Figure I15. Graphical distribution of results for Potential versus knowing someone who stutters

Social Distance/Sympathy component.

Table I12

Frequency distribution of mode score for Social Distancce/Sympathy component versus knowing someone who stutters

Do you know someone who stutters/class?	Social Distance/Sympathy mode score				Total
	1	2	3	5	
No	25	1	5	37	68
Yes	95	0	17	271	383
Total	120	1	22	308	451

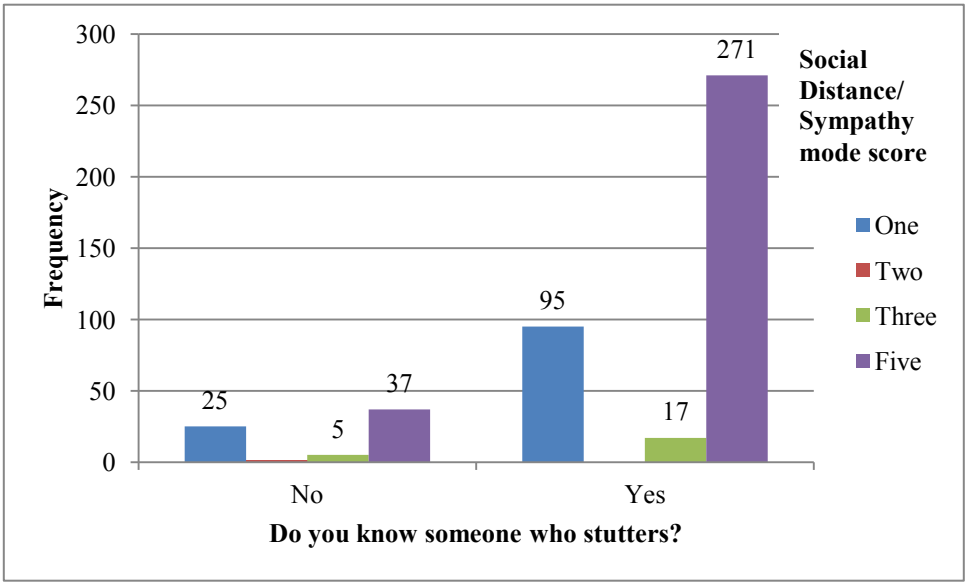

Figure I16. Graphical distribution of results for Social Distance/Sympathy component versus knowing someone who stutters

Knowledge/Experience component.

Table I13

Frequency distribution of mode score for knowledge/experience component versus knowing someone who stutters

Do you know someone who stutters/class?	Knowledge/experience mode score					Total
	1	2	3	4	5	
No	24	11	15	13	4	67
Yes	53	27	146	106	50	382
Total	77	38	161	119	54	449

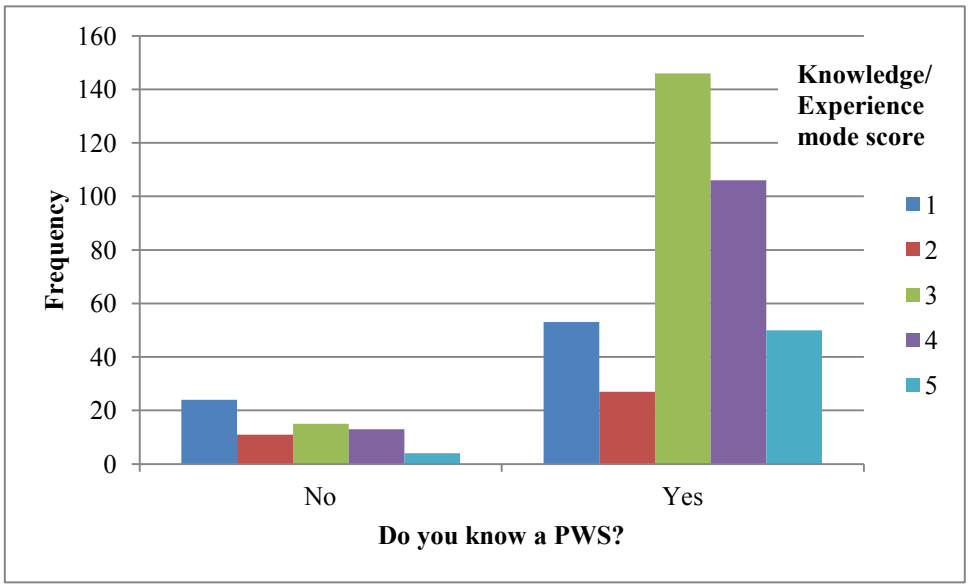

Figure I17. Graphical distribution of results for Knowledge/Experience versus knowing someone who stutters

Knowledge Source component.

Table I14

Frequency distribution of mode score for Knowledge Source component versus knowing someone who stutters

Do you know someone who stutters/class?	Knowledge Source mode score			Total
	1	3	5	
No	33	7	20	60
Yes	199	7	155	361
Total	232	14	175	421

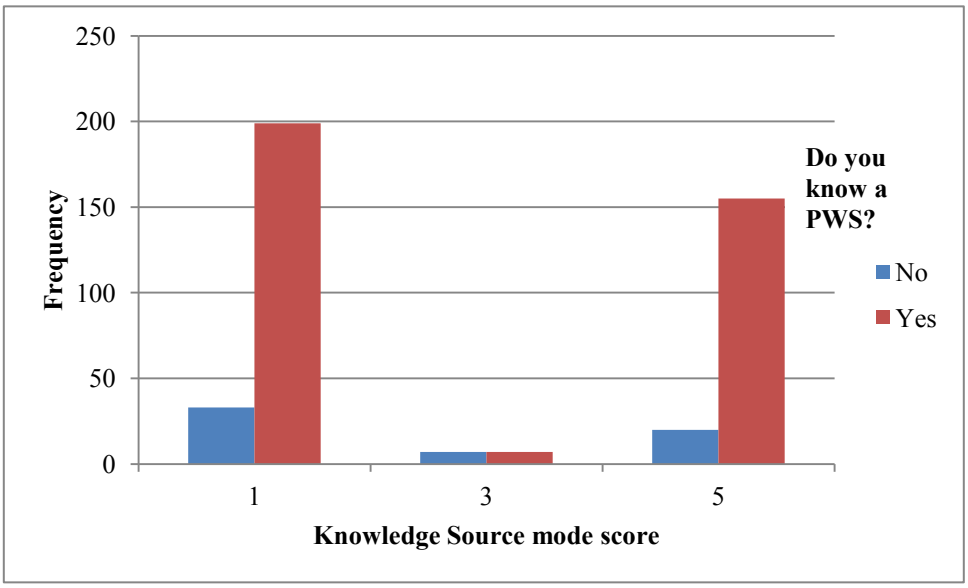

Figure I18. Graphical distribution of results for Knowledge Source component versus knowing someone who stutters